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SEPTEMBER

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THE INDUSTRIOUS HEN

A MONTHLY MAGAZINE
FOR THE
COMMERCIAL AND FANCY POULTRYMAN



THE INDUSTRIOUS HEN CO.
PUBLISHERS
KNOXVILLE TENNESSEE

Join Our Co-operative Buying Club

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This handsome loose leaf catalogue, containing between 200 and 300 pages of Groceries, Drugs, Toilet Preparations, Dry Goods, Suits, Raincoats, Rubbers, Gloves, Neckwear, Hosiery, Jewelry, Blankets, Umbrellas, Household and Dress Linens, Ribbons, Furniture, Rugs, Gas and Electric Fixtures, Furnaces and Stoves, Plumbing Necessities, Auto Supplies, Pianos, etc., etc.

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Free—Send for our World Home Supply Co. Booklet; tells about the organization and how it saves money for members; contains testimonial letters from satisfied men and women. Read it—it will induce you to become a member.

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Agents wanted to represent us in all parts of the country. Liberal commission. Excellent pay. Permanent positions. Address Superintendent of Agencies for full information.

Become a member—send fifty cents for your initiation fee—then start in and do the buying for your home and family and get groceries, dry goods, furniture and all kinds of merchandise at precisely the same prices that retail dealers pay for the self-same goods.

Through our organization you can get the same grade of goods you now buy for less money than you pay at present, or you can get better goods for the same money you spend to-day. That is not an idle advertising claim, it is a sober fact, and, in view of this, you really owe it to your pocketbook to investigate and prove to yourself that what we say is absolutely so.

You can save money as a member of the World Home Supply Co.'s Buying Club because it puts you in direct touch with manufacturers and wholesalers who will sell you any quantity of their merchandise at straight wholesale prices. About one hundred and fifty of these houses, whose total worth aggregates something over One Hundred Million Dollars, are under contract to supply our individual members with their goods at wholesale and they do this simply because our many small orders, when added together, make good sized factory orders, and, in many cases, are larger than the trade orders they receive from retail dealers.

By bringing the manufacturers and consumers together in this way we do away with the retailer entirely, we cut out his expense of doing business and, the twenty to forty per cent that he must add to the wholesale prices of articles he buys, is saved by our members.

To give you some idea of the difference there is between buying at retail stores and buying through our Co-operative Club note these comparisons:

RETAIL PRICE		CLUB PRICE
\$ 3.50	16 Button Kid Gloves	\$ 2.63
65.00	Gold Bracelet—3 Diamonds	49.00
17.50	English Slip-on Rain Coat	10.50
16.50	Bath Tub	11.00
32.50	Dining Room Table	20.00
15.00	Kitchen Cabinet (Oak Front)	10.65
25.00	Ladies' Suit	18.50
6.00	Men's Silk Stockings (per doz.)	4.50

\$180.50 On these few items selected at random and fairly and honestly priced at good retail stores

\$126.78

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White—THE LEON ORPINGTONS—Black and PARTRIDGE PLYMOUTH ROCKS

I am anxious to send more stock South. I have 3,000 head of fine breeding and exhibition stock that I can give just the quality desired and at prices that are right and fair. I breed all my own stock and know just what is back of them, and give a guarantee that they will make good guaranteed winners for any show. Write me. My stock has won over 400 prizes at the leading middle west shows in the past 4 years and are very heavy winter layers.

C. W. REEDER, : : Box D. H., Leon, Iowa

WHITE WYANDOTTES AT SPECIAL SALE PRICES

J. C. FISHEL & SON : : Box H, Hope, Ind.

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**"Some people suspend their advertising during the dull seasons.
That's what makes the dull seasons"**

—Judicious Advertising

DON'T STOP ADVERTISING.

The Poultry Record of Carey, O., says: "Too many poultry advertisers stop advertising as soon as the rush is over. They do this not that they are going to stop their efforts to make sales, but with an idea of economy. Unless a man is going out of the business permanently, this is a wrong idea. The longer a man advertises, the better he is known, and the better results he gets. Even if he has little or nothing to sell in the summer time, it will make business better in the fall and winter if the advertisement is continued during the summer. Practically all of the complaints of poor results from advertising come from the advertiser who only advertises a few months in the year. The annual advertiser who has an advertisement of some kind twelve months in the year seldom complains. Even two or three sales during the year would make the advertisement profitable, though he might make this many sales in a single month, or a week, or even a day, as some of our advertisers have reported. Every year new advertisers appear. Those who start this year and keep at it, have a decided advantage over those who start the next year, and each year adds to this advantage."

THE AD-READING HABIT.

"The big ninety-five per cent of advertising is read casually, just because the reader happens upon it in the paper or magazine.

"There are abundant arguments that could be advanced as to why the public should form the ad-reading habit, such as the information to be gained, the utilities to be made familiar with, the reasons of economy, and the fact that an advertised article must show a use if it is to be successful, and that advertisements as a whole contain the very information and suggestion which go to make up individual and corporate advancement in the acquisition of those things which constitute the conveniences and utilities of civilization."—Printer's Ink.

Every time you look for the advertising in a newspaper, instead of making it look for you, you bring down your cost of living, you increase the buying power of your money, and you get a better quality for the price. This is true, because the men who advertise are always the best merchants. They are the ones who last. The others flicker up for a little while and then go out. That's the proof.—J. R. Hamilton.

Barred Plymouth Rocks

WINNERS at Louisville, Frankfort, Owensboro Shows, and Kentucky State Fairs. 1st Cockerel, 1st Hen, 1st Pen, 2nd Pullet, 3rd Cock, 3rd Hen, 4th Cock, 4th Hen, 4th Cockerel, 4th Pullet, cash prize for best Pen, Louisville Poultry Show Jan. 19, 1911. 1st Pullet, 2nd Pullet, 2nd Hen, 2nd Cock, 3rd Cockerel, cash prize for best Barred Plymouth Rocks, Kentucky State Fair, Sept. 12, 1910. 1st Cock, 1st Cockerel, 1st Pullet, Frankfort, Sept. 1909. 1st Hen, 1st Pullet, 2nd Cockerel, 3rd Cock, 3rd Cockerel, 3rd Pullet. Cash prize for best Barred Plymouth Rocks, Kentucky State Fair, 1909. 1st Pullet, 1st Hen, 2nd Hen, 3rd Cock, 3rd Cockerel, 4th Cockerel, 4th Hen, 4th Pullet. Special for best shaped female, silver cup for best Barred Plymouth Rocks, Louisville Poultry Show, Dec. 1909. All firsts, Owensboro, Oct. 1909. 1st Cockerel, 3rd Pullet, 3rd Cock, 4th Cockerel, 4th Hen, 4th Pullet, 5th Hen, 5th Pullet. Blue Ribbon for best display. Cash prize for best Barred Plymouth Rocks, Kentucky State Fair, Sept. 1911.

Breeding Cockerels \$3.50—Pullets \$2.50
Exhibition Males \$12.50—Females \$10

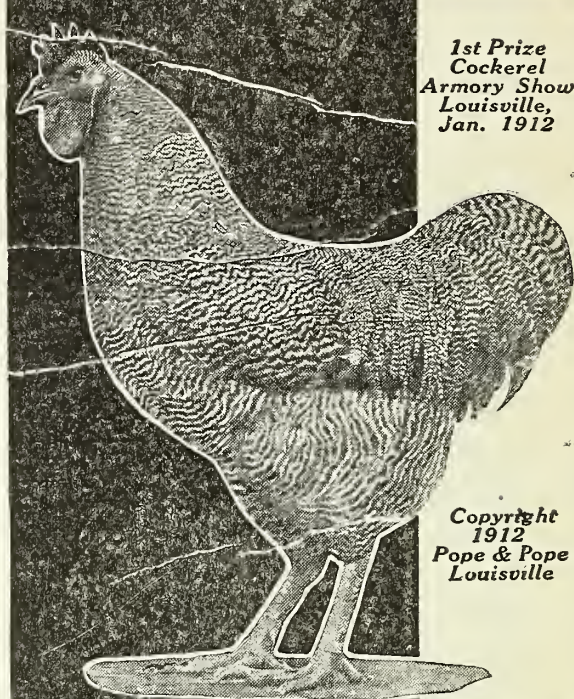
Incubator Eggs \$1.50 per 15—\$7.50 per 100

As splendid as have been our birds in the past, this season they are the height of perfection—in the new type—the correct type—the Pope type, of clear, distinct, black and white barring. No other breeder can give you such quality in color and markings as we can. We are specialists in Barred Rocks, have bred them successfully for twenty-one years, and when you buy Pope strain, you buy birds so good that they are in a class by themselves.

EXHIBITION BIRDS. We do a large business; we furnish MORE WINNERS TO OUR CUSTOMERS than perhaps any breeders in America. Our low prices secure for us more orders than we can take care of and our FINE, LARGE, MAGNIFICENT BIRDS, absolutely guaranteed, win the blue for those that buy them. Give us a trial, we can please you, we can please anyone.

BREEDERS. Buy your breeders from us. We have on range 1800 early hatched birds raised direct from our PREMIUM AND PEDIGREE PENS, bred to perfection in shape and color, large, healthy, vigorous, and we will send you the kind of stock you need to build up and strengthen your flock. Our unlimited facilities for hatching and raising Barred Plymouth Rocks ENABLES US TO GIVE YOU SELECTION NO SMALL BREEDER CAN POSSIBLY DO. A choice breeding or exhibition pen bought from us will do you more good than DOUBLE OR TRIPLE THE MONEY SPENT ELSEWHERE.

POPE & POPE, Cat. 7, Box H, Louisville, Kentucky



1st Prize
Cockerel
Armory Show
Louisville,
Jan. 1912

Copyright
1912
Pope & Pope
Louisville

S. C. WHITE LEGHORNS

THAT LAY, WEIGH AND WIN

There is as much difference existing between the breeds and strains of our poultry as among cattle. Our dairies raise cattle for the milk. The vast ranches of the West raise cattle for their marketable value in meat. POULTRY is different, for why should we sell a hen at three or four months old simply for her meat when the average GROVE'S STRAIN OF SINGLE COMB WHITE LEGHORN hens will lay twelve dozen eggs per year, which at 20c per dozen, amounts to \$2.40. Her marketable value at three or four months would only have been, probably, 40c. The same hen at the end of her laying season, is worth 60c to 70c in the market, making her worth a total of \$3.00. She will have cost in feed only \$1.10. Where, and in what other breed, can you realize \$1.90 clear profit upon an investment of \$1.10? Our 64-page Catalogue will be sent postpaid for 50c in stamps, which describes breeding, incubating, conditioning, etc., not scientifically, but by the common sense and nature method of raising poultry.

MY SIGNATURE ON EACH AND EVERY EGG YOUR PROTECTION

Don't start until you are sure you are right.
 If you do you'll fail, try as hard as you might.
 If you raise poultry why not raise the best?
 Breed the E. W. Grove strain and watch the nest.

E. W. GROVE, Jr.,

:

:

R. F. D. No. 1, Clayton, Mo.

WE ENVY NO MAN HIS ACCOMPLISHMENTS, FOR THEY ARE FOR BETTER POULTRY.

Life Member American Poultry Association.

Life Member National S. C. White Leghorn Club.

White PLYMOUTH ROCKS

Am now offering choice cockerels at \$2 and \$5 each. These cockerels are very high class and great bargains. They were hatched in March and April. Book orders now for future delivery

SHEPHERD POULTRY FARM, Quintus Shepherd, Prop., Shepherd, Tenn.

SEND FOR **Fishel's Special Sale List of White Wyandottes**
J. C. FISHEL & SON : : **Box H, Hope, Ind.**

HOUDANS

Southern bred. My birds took first at Alabama State Fair, also Birmingham Winter Show. Eggs for hatching for sale. Fertility guaranteed.

W. J. ROOT, Ensley, Ala.

PARTRIDGE ROCKS

Winners at Madison Square Garden, Boston, Philadelphia, Baltimore, Washington, Hartford, Scranton, Allentown and Hagerstown. Stock and Eggs—Prices Reasonable.

HILLCREST FARMS, Box 5, Oakford, Pa.

Rhode Island Reds

SINGLE AND ROSE COMBS

Write for mating list. Eggs at half price until August 1st.

MONTE SANO POULTRY YARDS, Augusta, Ga.
M. H. MORRIS, Manager

Black and White Minorcas

OVERSTOCKED on the BEST in the South. Sacrifice prices on old and young stock. Show winners at real bargains. Buy quick and get the best choice.

MRS. JNO. M. GRISSIM, R. 2, Lebanon, Tenn.

BARRETT'S BLUE RIBBON STRAIN

Mottled ANCONAS

I have a nice lot of Breeders for sale, at just half price. Five Toulouse Geese and three ganders for \$8.00. Write me.

L. M. BARRETT, Morristown, Tenn.

White WYANDOTTES

J. G. ROBBINS, Mayfield, Kentucky

S. C. R. I. REDS and BARRED ROCKS

Best stock, strong, vigorous, farm-raised
Eggs, \$1.50 per 15.

Indian Runner Duck eggs, \$1.00 per setting.

A. S. BELL, Route 13, Knoxville, Tenn.

WHITE PLY. ROCKS

The great show and utility strain that has been winning for me, and continue all over the country. I have been breeding this strain for 20 years. There isn't any better. Write your wants.

JOHN LANDIS, Edinburg, Ind.

WHITE ROCKS S. C. White LECHORNS

Prize winners at all the leading shows.
WHITE ROCK eggs, \$3.00 for 15; S. C. W. LEGHORN eggs, \$2.00 for 15.

Wm. H. Burch, Box 850-N, Charleston, S. C.



Twice Told Tales

An old negro was brought to trial in a Southern town for stealing a chicken. "Rastus," said the judge before sentencing him, "I am about to give you two months. Have you anything to say for yourself?"

"Good Gawd, boss! Two months! For stealing one hen! All I got to say is, boss," declared the negro. "'tain' no use to sen' me to no jail for two months for sealin' one chicken, 'case ef I spent two months in jail for ev'y chicken I done stole, I mought as well done been bawn in jail."

If everybody would do as they agree, be reasonably honest, fair and square in their dealings with their fellowmen, there wouldn't be much to fuss about in this little round world, and folks would be a lot happier. Just because a lot won't play the game right, don't let that influence you to follow a bad example. It never pays a man to do anything that will make it difficult for him to go to bed and sleep with his conscience.—Michigan Poultry Breeder.

Put some oats in a box that will not leak; wet them thoroughly with warm water, cover them well, let them stand one whole day, then turn them into a box that does leak. Keep putting warm water in them morning and night till sprouts are well started. Spread them out thinly, moisten more, and keep this up till the sprouts are of the required length. Some folks let them grow a foot long. No finer feast for the birds than oat sprouts.

We hear a good deal about "systems," and while system of some sort is essential to success, to learn to do by doing a thing is the surest, safest, sanest system of all.—Farmers' Home Journal.

Assort the eggs on the farm, save the dealer the trouble and you will not only get better prices for them, but will have a customer for your stock who will always await your coming.



Langford's Best Red Eggs

Now at \$5.00 per 15. Breeders for sale at half their value. Place your order for young stock for fall delivery. 500 young Reds growing for you. Catalogue free.

FRANK LANGFORD, R. 10, Nashville, Tenn.

FOR SALE--Belgian Hares

And the larger kind. Flemish Giants, all prize winners or directly from them. Prices less than United States figures for same quality. I pay duty. Easily kept. Good for Pets, Pot and Profit. Enquiries invited.

B. I. McRAE : Orono, Canada

INDIAN RUNNER DUCKS

One Dollar each. Year old. Send order for stock at once. White Orpingtons at bargain prices.

MUNNIMAKER POULTRY FARM
NORMANDY, TENN.

Tompkin's S. C. Reds

Young stock after September 1st

JOHN W. BROWN : Thorn Grove, Tenn.

"P. O. Knoxville, Tenn., No. 15

ORPINGTONS

OF QUALITY

Buff's that are BUFF and Whites that are WHITE. Greatest winter layers. Some fine stock at bargain prices if taken at once. Eggs in season.

WEEPING WILLOW POULTRY YARDS, Graham, N. C.

White ORPINGTONS

(JACKSON STRAIN)

Eggs and Stock for Sale.

HARRY CALLICOTT, Coldwater, Miss.

CRYSTAL WHITE ORPINGTONS BARRED ROCKS

THE LAYING AND WINNING KIND. Special bargains for early buyers. Shall be pleased to make you prices.

C. A. MOXLEY, Box H, Taylorville, Ill.

MOTTLED ANCONAS

First pen at Atlanta (only 1 entry); first pen, first cockerel, 1st pullet, at Chattanooga. Every first at Bowling Green.

BUFF ORPINGTON DUCKS

first young duck at Atlanta (1 entry) and four firsts at Chattanooga. All our birds are bred to win. Eggs in season. COPPERAS FALLS FARM, Tullahoma, Tenn.

S. C. Brown Leghorns Columbian Wyandottes

Prize winners, wonderful layers and beautiful plumage. Stock and eggs, prices reasonable. Send for mating list.

STURTEVANT BROS., Box H, Kushla, Ala.



WM. COOK & SONS

ESTABLISHED 1873

ORIGINATORS of all the

ORPINGTON FOWLS AND DUCKS

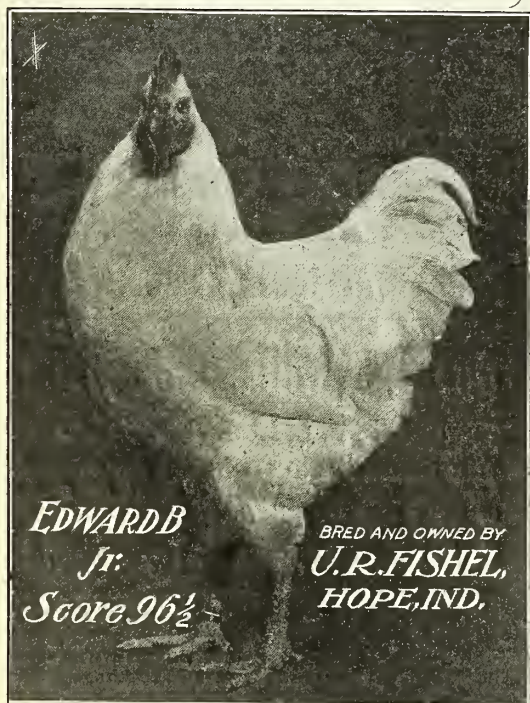
Box H : : SCOTCH PLAINS, N. J.

EVENTUALLY, if after the best Orpingtons, all varieties, you will send to their ORIGINATORS. WHY NOT NOW? and avoid loss and disappointment; we GUARANTEE safe delivery and SATISFACTION which is backed by a REPUTATION of thirty-nine years standing, THIS MEANS MUCH TO YOU. We are not here today and gone tomorrow as some breeders have been and are doing. Then EXPERIENCE counts, surely we should understand ORPINGTONS BETTER than a man who has had them just a year or two.

We MADE the Orpingtons, all of them, and are RECOGNIZED HEADQUARTERS for the best. A VISIT to our plant, where you are CORDIALLY welcomed, will prove this, as well as our THIRTEEN THOUSAND first prizes, and our winning 103 firsts and 72 seconds at Madison Square in six showings, MORE than eight times as many firsts as any other Orpington breeder.

We can supply on the same day as order is received, or will keep and train your birds for you, the FINEST line of EXHIBITION BIRDS that we have ever had. IMPORTED birds from our ENGLISH PLANT, the finest Orpingtons that were in England before our MR. P. A. COOK personally selected them for the AMERICAN requirements, which English breeders do not know. Or AMERICAN bred birds from our MANY AMERICAN WINNERS, sons of our first prize Madison Square White, Buff Black and Jubilee Orpington cockerels. NOW is the time to enquire and order your show birds. We supplied twenty times more first prize winners than any other breeder last season. Do not forget the \$50 CUPS WE GIVE which only our customers can compete for. It pays to own COOK ORPINGTONS. ASK THE PEOPLE WHO OWN THEM. SEND 10c FOR ILLUSTRATED CATALOG containing history of the Origination of the Orpingtons, and hints on Poultry Keeping. Show season of 1913, we won two firsts on two entries at Atlantic City, first White and first Black Orpington pens.

Pens are now mated up for our Southern business and EGGS can be supplied from our WINNERS and the FINEST ORPINGTONS in the world for \$20 a setting, and from fine stock at \$10 a setting. Advice free. Inspection invited. Trains met. Cook's Roup and Worm powder, and also Laying and Condition Powder for sale. The best that exists. Ornamental Land and Water Fowl for sale.



HOW EASY TO WIN

When you have birds that are of the type and quality that it takes to win. For years we have supplied the winners at most all important Southern Shows and this season we have more and better early hatched birds than ever before.

WITH Fishel's White P. Rocks

it is an easy matter to win, not only the regular prizes but all specials. Write us your wants please. Send 25 cents for 64-page Catalogue, worth dollars to any one interested in poultry.

U. R. FISHEL, Box H, Hope, Ind.
SPECIAL SALE LIST FREE

PLYMOUTH ROCKS BUFF and WHITE

EXCELSIOR BUFFS---QUEEN QUALITY WHITES

Winners at all the leading Southern shows. Eggs for hatching—\$2.00, \$3.00 and \$5.00 per fifteen. Exhibition and breeding stock for sale. If you want the best and are willing to pay a fair price, get our Mating List. Free on request. The accompanying photo is our First Cockerel, International Poultry Show, Atlanta, class of 28, Poley judge.

EXCELSIOR POULTRY YARDS, Gadsden, Alabama



THE INDUSTRIOUS HEN

Vol. 9

Knoxville, Tenn., September, 1912

(Whole No. 100) No. 4

September Work in the Poultry Yard

By LYNN C. TOWNSEND, Weedsport, New York



SEPTEMBER is a very busy month in the poultryman's calendar. At this time of the year his duties are manifold, for besides the regular routine of work, he must begin to prepare for winter. The moult must be carried through successfully and the birds gotten in shape for the production of winter eggs. If in business for the fancy end at all, the future show-birds must be gotten in shape, for this month usually marks the opening of the fall poultry shows.

Moulting, although a natural process, is very weakening on the fowl's vitality and great care should be given the birds at this time. While we do not advocate "starving" the birds to force an early moult, yet the following method may be found of value. If the birds are fed on half rations for a short time at the beginning of the moult, and then fed heavily, the result will be that they are hastened through the process and are laying and in good health, while the ordinary fowl is just undergoing the process. Feed the bird lightly for about two weeks. This stops the egg production and lowers the weight, and then heavy feeding will cause a quick moult and a general up-building of the system.

At this time feed only that which is good for the formation of feathers. As practically the same feed will produce eggs, your pocketbook should not suffer in consequence. Wheat, bone meal, and oats make excellent food for the moulting fowls. Sour milk and a generous supply of green food should also be given. It is a good idea to remove the male bird from the pen during the moulting season.

Now is a good time to clean up and get everything in readiness for winter. Lay in a plentiful supply of good dry sand for the dust baths. Give the houses a thorough cleaning and fumigate them well. Get busy with the rake and clean out the summer's output of rubbish around the yards, etc. Store away all the brooders and coops that you are not using, after giving them a good coating of some strong disinfectant.

September is a good month in which to whitewash the houses, in addition to being an enemy of lice and mites, whitewashed walls will make the house much more light and cheery during the dark winter days. Apply the whitewash with a sprayer, for then you will be sure in reaching the crevices that a brush could not do. Ordinary whitewash is made more effective by using carbolic acid in connection with it. Slake the lime in an old tub with a sufficient quantity of water to make a wash of the desired consistency, adding a little water at a time. Then add a fluid ounce of crude carbolic acid to every bucket of water. Put it on hot and get it into the cracks by means of a sprayer.

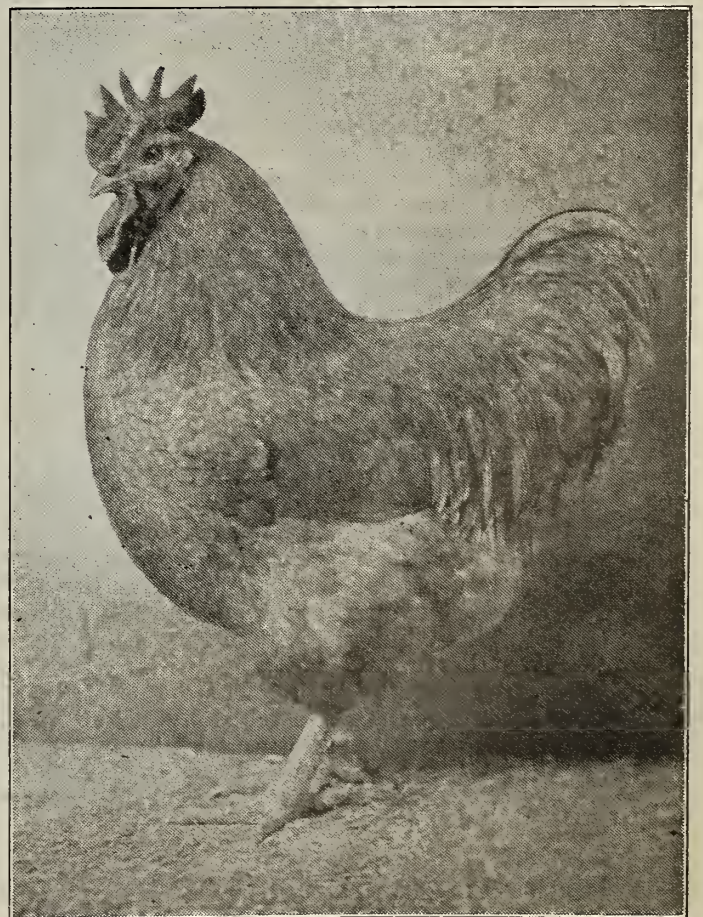
If you expect to exhibit at the fall shows, the specimens should be placed in the training coops now. Handle the birds as much as possible, so that they will be perfectly tame when in the show room. If you expect to exhibit fowls that will need washing, you had better begin to practice up now. Take some dirty bird that isn't as valuable as the show bird and try your hand at washing him. While seemingly very simple, the job isn't as easy as it looks.

The winter quarters for the young pullets should be thoroughly overhauled and whitewashed. The pullets

should be moved from the colony coops to the laying pens the last of this month. This will enable them to get settled nicely and in working order before winter begins.

If the pullets are hatched in March or April, they should be laying in October, and then good care and food will keep them laying steadily right through winter. The food and especially the care are the most important factors. The first essential is in having the pens cleaned up, whitewashed and everything in good working order. Remember that the pullets have been on free range, and housing them up entirely reverses the conditions. Keep the scratching litter always on the floor and change it whenever it becomes musty or damp. Beware of droughts and the cold rainstorms for now the birds will catch cold easily.

Feeding is an ever interesting subject and deserves more than passing interest. Next to a variety of sound wholesome grains, ranks plenty of green food. The feed bills can be greatly lowered by the free use of green foods, hence the breeder who fails to supply this want is certainly very short-sighted. Never feed musty or dirty



BUFF ORPINGTON COCK
Property of T. W. Rogers, Lamont, Iowa.

feed. Get the best; wheat, corn or oats are the staple foods, with meat and green food as accessories. The all-grain diet is injurious; bulky material is needed to give variety. Milk in any form is acceptable and is greatly relished by the flock.

From Sun to Sun on a Great Orpington Farm

By a Special Representative of The Industrious Hen



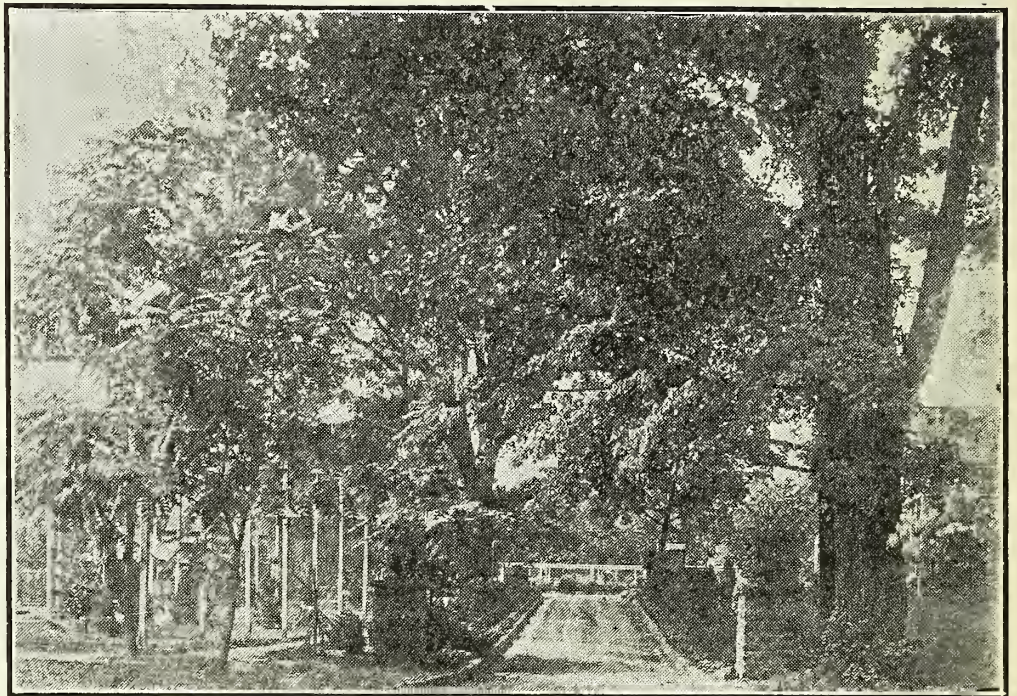
WHILE on a visit to New York not long ago the writer set aside one day to visit the world renowned farm of William Cook & Sons, originators of all the Orpingtons, at Scotch Plains, New Jersey. The object of writing what I saw is for our readers to see what money there is in keeping pure-bred chickens, especially Orpingtons. I had written Mr. Percy Cook several days previous, making arrangements to come out early in the morning, and he met me in his automobile at Westfield station. As soon as we were clear of the town Mr. Cook said, "do you like to ride slow or fast?" My reply was, "any old way." Soon I wished my reply had been different, as we rounded a bend with the speedometer registering fifty-five miles an hour, it seemed only a few seconds before we were approaching Mr. Cook's residence. Before reaching the front gates, we passed a nice flock of deer and llamas, different kinds, then long sloping lawns and a tennis court. On the left of the driveway was an enormous aviary, one hundred and twenty-five feet square and twenty-five feet high, covered, of course. Here I was treated to my first sight of seeing tropical birds flying around in almost natural surroundings, as Mr. Cook's place was filled with tropical palms, banana trees, etc., all of which have to be taken in during the winter. In the center of the aviary was a fountain which was playing, and the bowls of it were filled with small fish of all kinds, which the large cranes often feed off of. This aviary was certainly a brilliant spectacle containing over eighty-five different kinds of birds, and in some cases quite a few of one variety. The talking parrots flying around were very amusing. It was a beautiful, cloudless day, and the brilliant plumage of the birds against the green foliage and white buildings in the back ground made a pretty picture. The aviary only contained two chickens; one, the finest Black Orpington cock I have ever seen, and one rather poor individual, a White Faced Spanish. I was rather curious to know why he was there. Mr. Cook said the bird was given to him by a chum, who suggested that it would be a good idea to have at least one good bird on the plant! We went into the house, where after a cool, refreshing drink, I admired the beautiful marine paintings, the collecting of which is one of Mr. Cook's hobbies. Many things inside were of interest: lion, leopard and other wild animal skins were lying around in the form of beautiful rugs. I remarked on these and was interested to learn that Mr. Cook had shot all of them in Africa, besides the numerous horns, etc.; in fact, curious from all over the world.

The office was an interesting place. There was an enormous china closet built in with mirror-back, and glass shelves, holding the largest collection of cups I had ever seen, won of course, by the Orpingtons on the farm. Then there was a glass case fourteen feet long, eight feet high, filled with prize ribbons, nothing but blues; I forget how many first prizes these represented, but I know the firm of Cooks' have won over thirteen thousand first prizes, not at the small shows, but the largest.

We started out for a walk around before luncheon. The first thing we came to was a small artificial lake, which contained a large collection of water fowl of all kinds. I remember the flamingo, pelican, stork, different cranes and herons, several species of swan, geese, and numerous fancy and foreign ducks.

We then went into a small exhibition poultry house, holding about one hundred birds in single cages; everything inside and out painted white. I noticed that in different parts of the farm, the different varieties were

kept. It was explained that this was done to prevent any mixing of birds, and also to facilitate the men in gathering eggs, as there is less chances of a mistake being made when different men look after the different kinds. Most of the pens seemed to be filled with young pullets about five months old, and a look inside the houses showed that they had started laying. All the runs were large, shady and seemed to have a slope. It would be impossible to find a better location for a poultry plant—and the main road running alongside of the place is a big feature for advertising. In the afternoon while sitting on the veranda I counted sixteen automobiles lined up along the front, while the people were out looking around. Mr. Cook informed me that on Sundays it was the usual thing to have between three and four thousand people stop to look at the different things. After luncheon, we walked over to the new exhibition house. This building is ninety feet long with two floors, and a large veranda, top and bottom. The top floor is one big room, filled with small cages. It was a regular poultry show; every cage filled with the best Orpingtons I have ever seen, Buff, Black and White. Here we saw also our first Blue Orpingtons originated, as all the other Orpingtons, by

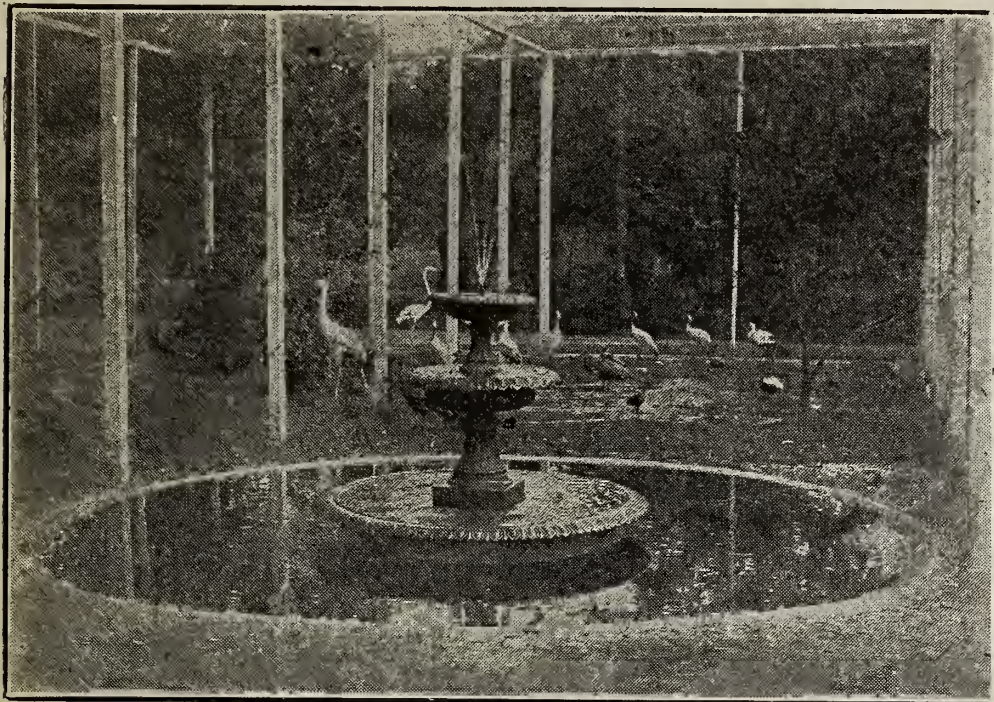


Entrance to the Plant of Wm. Cook & Sons, Originators of All the Orpingtons, Scotch Plains, New Jersey

Mr. Cook. The light was excellent for judging. Downstairs there were other show rooms, washing room with hot and cold water, and a row of wash tubs, then drying room with heat, and in the other end, a strange mixture of cages, winter quarters for lions, monkeys, babboons, birds, etc. This was something new to me. Mr. Cook smiled and said, "I have not shown you my pets yet." When we came out, I looked around and saw another big show house in course of erection and a large number of laying houses. I found out that it was his object to get an additional eighty runs added to the plant before winter. Small chicken coops and brooders were scattered all over the fields as far as I could see.

I was very interested to know what Mr. Cook considered his chief reason for making a success of the poultry business and his idea of the failures. Among others, his reply was: "The chief reason for my success was the good name left me by my father which I value more than anything else in the world; but outside of this, the cause of success is to have the quality of birds first, then treat your customers in the most liberal way possible but to obtain these you must be a liberal advertiser. You may have the best birds in the world, but they will not do you much good unless you let people know about it and prove it to them—and advertising is the only way to do it. The

only trouble in keeping Orpingtons is you cannot raise enough to supply the enormous demand, and this demand will never be satisfied; so there is room for thousands more in the fancy poultry business. Now, for the causes of failure: I suppose inexperience would head the list. Many people who have failed at everything else take up chicken farming as a last resort. If you have failed at everything the chances are ten to one you will fail with poultry. Begin with a few birds and get your experience,



Fountain in Aviary on Plant of Wm. Cook & Sons.

then you will be qualified to handle numbers. Many spend too much money on fancy buildings and not enough on their stock. It is the latter that brings in the money, not the former. Then many start a large plant with no capital and have to sell to pay their bills. It takes about nine months for a poultry business to pay, then, if one has Orpingtons, it will pay, and pay better than any other business. I am always pleased to give advice free to beginners and can tell them how to make money on a very small investment."

You may imagine my surprise while walking around to see Mr. Cook open the cage and let six large babboons run out on the lawns, I began to wonder if I was safe, but was reassured as long as I did not touch them I would be. They seemed as obedient as dogs and all came when called by name. In the other cage were monkeys. Mr. Cook stated that he bought them wild, and tamed them, and that it was quite interesting as they became very affectionate, but only friendly with one or two people.

This farm has recently imported about 1,000 birds from their English plant, which have been especially mated by Mr. P. A. Cook. Thus any one wanting imported stock can get it from the American plant. Cook Orpingtons won first pen on both White and Black at the Atlantic City show this season. They are now prepared to ship orders the same day received, or will keep birds and train them for the shows.

Mr. P. A. Cook will judge at several of the leading Southern shows, also at Indianapolis. They are again offering the fifty dollar cups at this season's shows on the same conditions that they were given last year.

It was now time to start for the train, as we had decided to take a spin around the country in the machine. This was the fifteenth that Mr. Cook had owned. He certainly has had an interesting career; being once an officer in the English navy, serving fourteen months in the Boer war in active service in the naval brigade, and was wounded in the head. We spent a very pleasant day; in fact, the best of my trips North, and I would recom-

mend any of our readers if on a visit North to visit the home of the Orpingtons. In fact it would pay one to make a trip North for this purpose.

As stated above, the Cooks are the Originators of all Orpingtons, and we were shown a copy of the London Telegraph containing their advertisement. The typographical arrangement of the foreign advertisement was quite in contrast to the one to be found in this magazine. The type was all small and set the regular single column newspaper measure, a style typical of the newspaper advertisements in that country.

The Messrs. Cook are now advertising Orpington fowls and ducks, also ornamental land and water fowl. The illustrations shown in connection with this article give one some idea of the beauty of the Cook plant and the variety of land and water fowl to be seen there.

The firm of Wm. Cook & Sons was established in 1873, thirty-nine years ago. Since that time they have been breeding fancy poultry continuously, until today their plant is probably the largest in the world. They have established a reputation for honesty and fair dealing in almost every country of the world, and wherever the name of Wm. Cook & Sons is known one may hear a recital of some kind deed done by some member of this firm.

Mr. Percy A. Cook is known especially well throughout the South, where he has judged many of the leading shows. He has cheered the heart of many a show secretary by his appearance with a string of White, Black, Buff, and Diamond Jubilee Orpingtons, enough of them to make a first-class show in them-

selves. No poultryman is more universally popular in this section than he.

Pens are now mated on the Cook plant for Southern business, and they can now supply eggs from their best pens at \$20.00 per setting, or from fine stock at \$10.00. Their handsome catalogue containing history of the origination of the Orpingtons and hints on poultry keeping may be had for ten cents.

Mr. Cook says the demand for Orpingtons in the South is constantly increasing and expresses the opinion that next year will see a greater demand than ever, despite the unfavorable season of 1912. He places great stress upon the importance of advertising in building up a poul-



Mr. P. A. Cook with one of his pets.

try business, but the first requisites are good stock and a satisfied customer at any cost. An experience of thirty-nine years ought to be sufficient schooling, and beginners certainly can not go amiss in accepting advice and instructions from Mr. Cook.

Sore Head, Dread of Southern Poultrymen

By LORING BROWN, Atlanta, Georgia

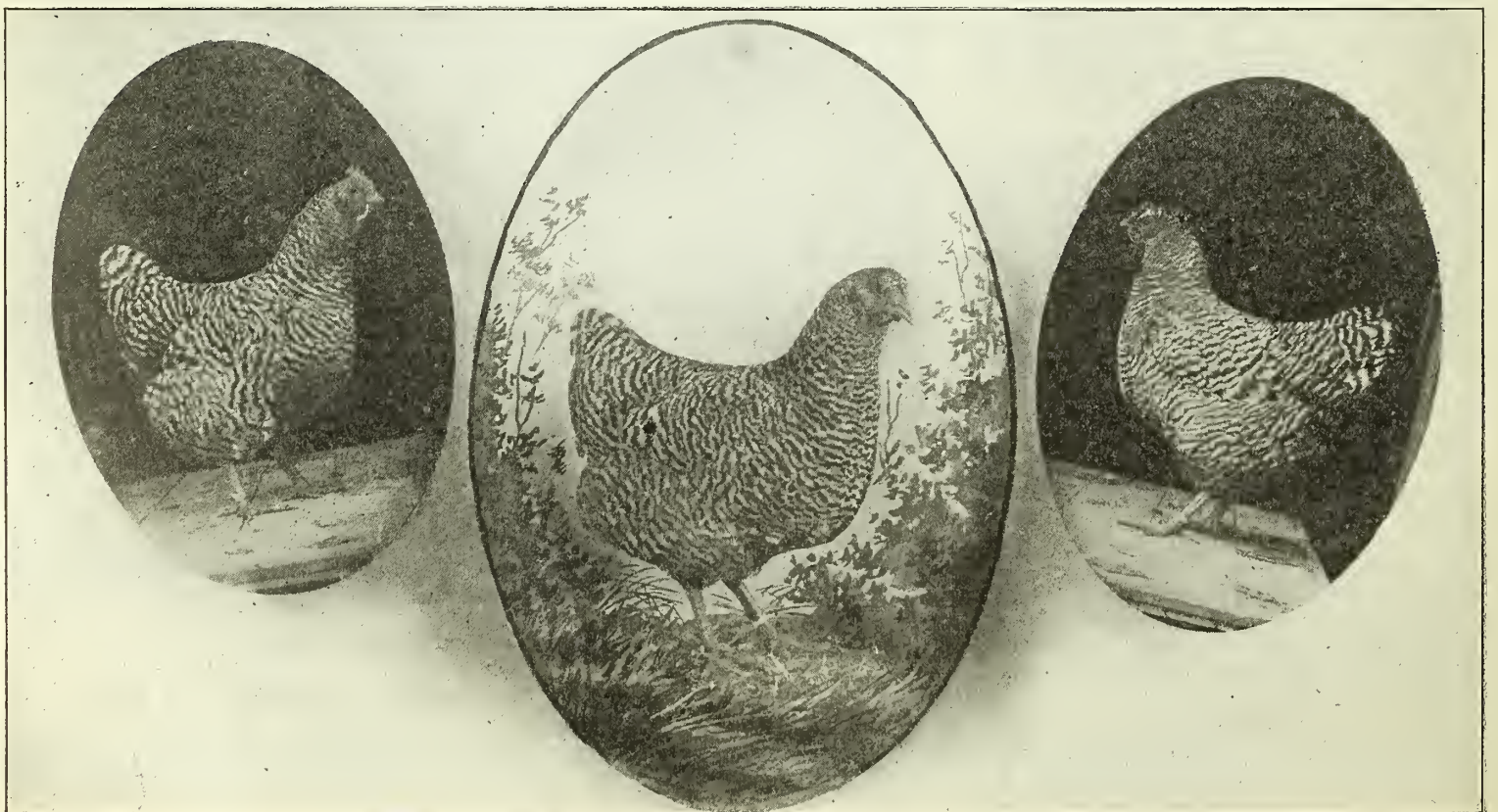


ORE HEAD is one of the most dreaded diseases that the southern breeder has to contend with. It has kept many people out of the poultry business, and disgusted hundreds that had chickens to such an extent that they would not attempt to raise chickens again. To prevent sore head is a very simple thing, especially in north Georgia. It seems to prevail more in south Georgia and Florida than it does farther north. During the months of July, August, September and October this disease generally makes its appearance, and it seems to be similar to measles or smallpox. There are certain seasons of the year that are more suited to its culture and make it spread during this time than it does out of its natural season. It would be impossible for breeders who keep large flocks of chickens to succeed if there was not some way by which this disease can be kept checked, and if a person has learned how to control it and keep it out of his fowls, others can certainly do likewise if they use the proper treatment. If the person who wishes to avoid this disease among his chickens will begin the latter part of June and continue until the latter part of October the feeding of salts and sulphur regularly every week, they will not be troubled with this disease, or, if so, it will be in such a mild form that it will not cause any large loss. But it will not do to neglect at any time these two mentioned. On Tuesday you should feed a tablespoonful of salts in some soft mash feed to 15 to 25 chickens, according to size, and on Friday feed the same amount of sulphur likewise. Old chickens that have passed through this epidemic, and nearly every one in the south has, are immune from it and seldom have it. Therefore it is not absolutely essential that you feed it to the old chickens. This trouble we have to contend with every year, and when a chicken has it once it is a rare thing it ever has it the second time. Nearly all chickens that are grown have had it in some form at some time before they were grown, and it seldom ever affects them after they are one year old.

A person need not fear sore head very much if he will make up his mind not to hatch a lot of chickens the last of July, August and the first of September. Usually chickens hatched during these three months bring most of the troubles that a breeder has with sickness or weakness in his flocks, even for months afterward. During these hot months little chickens do not thrive, and they do not feather rapidly. Therefore, when the first cool nights come in October, if it catches them about half-feathered, they

usually take cold, and it contaminates the early hatched ones, and roup and sore head always follow. Young chickens hatched during these months, if they are kept where other chickens have inhabited during the year, are more than apt to bring two dreaded diseases in your flock, and, as young chickens cannot be fed salts and sulphur, or it should not be fed to them until they are six to eight weeks old, you cannot expect anything but bad results and lots of trouble just as long as you hatch chickens during the hot summer. It is all right, and they will often do well for a person who has a nice free range out in the country, in woodlands, and where chickens have not inhabited before, or where they have not been kept in large numbers, as everything is fresh and pure around such premises, but it certainly is folly for any one who is not so situated to attempt to raise any chickens during these months on any premises that a large number of chickens have been kept on during the earlier part of the season. I have seen occasionally some people have good success maybe one year in five or six hatching during these months, but in nine cases out of ten, if continued year by year, they will usually lose a lot more than they will gain by doing so. Sore head can be largely corrected and we would have much less of it in the country every season if people would discontinue hatching at least by the middle of July, anyway. It does not affect ducks, and they can be hatched every month during the year, but it will not do to hatch chickens and take the chances one does take during these hot summer months.

If a person should be so unfortunate as to have sore head in his flock the coming season, the best treatment I have ever tried for it is raw linseed oil and carbolic acid, about one pint of linseed oil to two ounces of full strength carbolic acid. If the carbolic acid is not very strong, it should be made strong enough to make the sores black inside of eight to ten hours after it has been applied. Permanganate of potash or Conkey's Roup Cure should be kept in their drinking water every day so long as they are affected, as roup is sure to follow any case of sore head, and this treatment will help keep down this trouble to a large extent. When sore head once appears in a flock, you can rest assured that it will affect the entire flock, and every bird should be treated at once, beginning with the well ones and ending with the sick ones. If you are so unfortunate as to have it in your flock this season, begin in time and treat all of your young chickens when it first appears, before it gets them in a weakened condition, and usually you can save the entire flock, or not have a severe loss.



Quality of Indian Runner Duck Eggs

By J. W. BEESON, A. M., LL.D., Meridian, Miss.



HERE seems to be an idea abroad that duck eggs are not good to eat, that they are strong and not very palatable. This may be true of the old fashioned puddle and other varieties of ducks, but it is not true of the Indian Runner duck egg.

The Indian Runner duck was imported from India to England by a sea captain about 80 years ago, and from

England to this country about 12 or 14 years ago. It is called Indian because it came from India, and Runner because it stands up and runs, something like the penguin, when frightened, and it does not waddle as other ducks. It is noted especially for the large number of eggs it lays and of such excellent flavor. Where they are known, epicures and fastidious people demand the Indian Runner duck eggs, because of their excellent flavor and large size. Some of the noted restaurants of New York, we are told, make an advertising point of serving Runner eggs to their elite patrons. Bakers and confectioners like them because the whites stand up better than that of hen eggs and make better cakes.

Quality of Indian Runner Duck Eggs.

The quality of the eggs is fine; they are not quite as large as most other varieties of ducks, but still quite a bit larger than a hen egg, and when you cook one you have something worth while. They are of a delicate flavor and are quite unlike all the other eggs that roam up and down the creeks and ponds.

The shell is a beautiful white color with an occasional tint, so that the egg is quite attractive for breakfast by many who would not look at a large dark green duck egg. For cooking they are much superior to hen eggs especially for cake baking, puddings, etc. The flavor, as we have said, is mild and delicate, not surpassed by the ordinary hen egg, and fastidious epicures with an acute taste will have no other kind.

The eggs are somewhat larger than hen eggs and of such superior quality that they demand from five to thirty cents premium per dozen over hen eggs, and in the city markets where they are known and are in great demand in winter and spring with an extra lively demand just before Easter.

A few hotels keep a flock of Indian Runner ducks to consume the table scraps and furnish winter eggs when they are high and hard to get. One can easily make arrangements with some hotel or large institution to furnish them eggs the year around and can fill the contract with a flock of Indian Runner ducks.

Market and Cookery Value of Indian Runner Duck Eggs.

As market stock, the eggs of the Indian Runners have opened up possibilities never before ahead of us. They not only furnish the large size eggs that everybody likes to buy, but, under favorable conditions, they can be pro-

duced more cheaply than the small eggs from the hens.

Indian Runner ducks begin to lay younger than the best laying hens as a rule, and lay more persistently; they lay better in winter and autumn when eggs are high and scarce, and make a higher record on average with less feed in proportion and less risk of loss from diseases, lice and mites. When we add these facts to the points that they lay an egg exactly one-half larger than the standard size for hens' eggs, and that the English type lay a beautiful white translucent egg, it is easy to see that their value as producers of market eggs is abnormally high, as compared with anything yet known. Cooks will at any time be rejoiced to know that two Indian Runner duck eggs take the place of three hen eggs even when the latter are up to standard size, which is not generally the case. In custard, by scientific test, two Indian Runner Duck eggs took the place of five hen eggs with equally good results and the custards were as good if not better. In sponge cake, one of the most difficult to make, three Indian Runner ducks eggs took the place of five hen eggs with equally good results. In omelettes the Indian Runner eggs score even more strongly in that they will bear more liquid than hens' eggs, and may be used with water instead of milk, when necessity demands. The firmer white of the Indian Runner renders the omelette less likely to fall, and some like it better with water than with milk, and scalded milk can thus be avoided in the case of the many invalids to whom milk seems to be poison. Physicians when well posted recommend Indian Runner eggs in preference to hen eggs. No eggs were ever more delicately sweet than those of the Indian Runner; so that it may fairly be said that we shall soon have a luxury that is not extravagant and which it is hoped will soon be plentiful on our markets. At this time, only a few favored buyers can have them because there are not nearly enough to go around. Most cities have hardly heard of the Indian Runner, as yet; but some of the best hotels and restaurants will have none but the Indian Runner eggs when they know them well. These are the places that most often consider quality.

There is no question about the superiority of the eggs and that they will command a premium over the hen eggs much greater as they become better known.

The Woman's College has several hundred Indian Runner Ducks, perhaps the largest flock in the South, including the three varieties: the English Standard, dark fawn and white, with penciling on the fawn; the American Standard, light fawn and white; also the pure white. We find them all layers of fine large eggs of excellent flavor. While the College is raising them for breeding purposes, fancy trade and exhibition stock, still they have sampled the eggs to know that they are of the finest flavor and sought after for eating purposes in preference to hens' eggs. They are especially fine for sick people and those who have to live on egg diet. The Indian Runner duck is destined to revolutionize the poultry business in America.

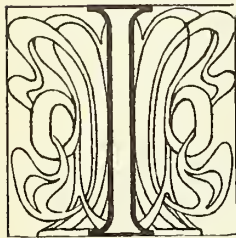


LAYING HOUSE ALDRICH POULTRY FARM, COLUMBUS, OHIO

Primary Principles in The Prevention and Treatment of Disease in Poultry

By GEORGE BYRON MORSE,

Senior Bacteriologist, Pathological Division, Bureau of Animal Industry



THIS is the object of this paper to impress upon poulterers the one basal principle underlying all rules of health and upon which only can be erected a successful system of treatment of disease in poultry. In the final analysis one word furnishes the thesis of this paper and sums up its conclusions. That word is "cleanliness." The writer is fully convinced that cleanliness is at once the corner stone of health and the keystone of the arch of healing. His desire is that the perusal of this paper shall compel all readers into such acceptance of this conviction that hereafter they will make cleanliness the foundation of whatever measures they may adopt for the promotion of health and the prevention of disease, and the groundwork for all methods selected by them for the treatment of disease and recovery of health. If it can be shown that all deviations from health involve the integrity of this fundamental principle, cleanliness, it necessarily follows that any attempt at recovery must seek to restore cleanliness. As cleanliness is the first law in the science of preserving health, so is it the primary principle in the healing art.

This fundamental doctrine of cleanliness as applied in this paper to the well-being of poultry may be expressed in three general principles: (1) Clean intake; (2) clean output; (3) clean surroundings. The intake includes food, drink, and air. The output consist of excrementitious matter from the alimentary tract, the excretion from the kidneys, and the products of the reproductive system. The surroundings comprise houses, grounds, and air.

DEFINITION OF CLEANLINESS.

What does the word "cleanliness" mean to us? If we study the dictionary, we shall find that cleanliness means freedom from dirt or foreign matter. Our conception of cleanliness must therefore depend upon our notion of dirt, and that notion is largely a matter of training, habits, and associations.

The philosopher has defined dirt as "matter out of place." Matter that is all right and clean in one place may be all wrong and dirt in another. Moreover, cleanliness is one thing to the ordinary person, but altogether another matter to the hygienist. The eye with the microscope has a larger apprehension of dirt than the unaided eye. The good housekeeper sees with annoyance the specks of dust and is satisfied with their removal; the intelligent surgeon whose vision has been enlarged by the microscope sees the millions of bacteria that use a single speck of dust as an airship, and he knows of the possibility that tetanus bacilli or other germs may fall, unseen, from such dust on to the raw surface of an exposed cut upon a person's skin. He therefore can not call the cut surface of the wound "clean" until he has thoroughly washed it and applied a disinfectant in order to kill those germs. The apples on the street vender's stand glow with apparent cleanliness, but those same apples may have been polished with a soiled pocket handkerchief, and the bacteriologist might well tremble at the thought of the tubercle bacilli that may be on those skins. The cook washes the lettuce leaves to remove the bits of adherent dirt, and the salad made therefrom may look and taste all right; but the unaided eye can not see the typhoid germs or other intestinal microbes derived from the sewage with which that portion of the garden stuff was fertilized.

The conception of dirt and cleanliness in this paper is formed by the sanitarian's training, habits, and associations. However, the writer rejoices in the fact that nowadays farmers and poulterers are a class who read, and therefore have become somewhat familiar with the horizon of the scientist, so as to appreciate, in air and soil, in food and drink, in houses and incubators, upon the external and internal coverings of the chicken's body, the presence of innumerable microbes, many of them capable of producing decomposition and putrefaction, and thus likely to cause

sickness through absorption of their poisonous products; many of them characterized as specific agents of disease, and therefore recognized as a definite menace to life; and large numbers of them viewed generally as harmless which yet by excessive multiplication induce conditions which become themselves sources of disease.

The presence of these microbes in localities where they do not belong, or in excessive numbers even where they do belong, medically speaking, constitutes dirt and calls for cleansing. To sum up, cleanliness involves not alone absence of dirt and foreign matter which can be detected by the unaided eye and removed by means of shovel and wheelbarrow, broom and dustpan; it involves also greater or less freedom from those myriad microscopic forms the removal of which is accomplished by disinfecting agents which destroy them.

SEVEN PRIMARY PRINCIPLES.

In the working out of this fundamental law of cleanliness seven rules or maxims have been formulated by the writer as furnishing, in a general way, the application of this principle to meet all the requirements of a successful poultry industry. These rules are but further divisions of the three general principles previously mentioned, and may therefore be regarded as the seven primary principles in the prevention and treatment of disease in poultry. They are as follows, and are expressed in mandatory form, since nature, in her sovereignty over animal life, demands cleanliness under penalty of disease and death: (1) Clean out; (2) clean up; (3) clean the water supply; (4) clean the food; (5) clean the eggs; (6) clean the incubators and brooders; (7) clean the breeding.

The ease with which these maxims can be carried out, and the cheapness of the articles employed for that purpose, combine to give them the maximum of practical value. It is true there are many different medicines with which to "clean out" the intestinal tract; there are a legion of disinfectants with which to "clean up" the soil, and numerous drugs with which to clean the water supply. If, however, the poultryman can become expert in the use of just one good and sufficient substance for the accomplishment of each of these primary principles, he is far better off than if his mind were stored with a whole materia medica which he has rarely or never tried. Notice how simply these maxims can be carried out.

Clean out by giving Epsom salt.

Clean up by spreading powdered air-slaked lime.

Clean the water supply by adding permanganate of potash.

Clean the food by preventing contamination or by heating.

Clean the eggs by dipping in grain alcohol.

Clean the incubators and brooders by scrubbing with hot water and good, old-fashioned kitchen soap.

Clean the breeding by using the youngest females consistent with the requirements of good breeding.

METHOD OF APPLICATION.

1. **Clean out.**—This is carried out as a routine hygienic measure by administering Epsom salt to the whole flock once a month from October to March, and twice a month from April to September. For this purpose the salt is best given in an evening mash, which, after the salt has been thoroughly mixed with it, should be sufficiently moistened with water to dissolve the salt. Let the mash be carefully proportioned to the appetites of the birds and feed on a dry, hard, clean floor, so that the whole may be eaten quickly. Epsom salt should not be wasted by putting it in the drinking water; the birds can not in that way take enough to secure the desired results.

The dose of Epsom salt may be estimated at one-third of a teaspoonful to an adult bird. Extra large fowls might receive a half teaspoonful, smaller or younger birds less. The writer usually prescribes one teaspoonful for three fowls, or six to eight half-grown chickens, or for twelve

to twenty chicks, according to age, size, and previous thriftiness.

Immediately upon the appearance of disease in the flock, without waiting to determine whether the sickness is infectious or not, all birds, sick and well alike, should receive a dose of Epsom salt by the method above outlined. If the disease proves to be infectious, flock treatment with Epsom salt should be maintained once a week during the prevalence of the epizootic. All sick birds, which should be isolated at once from the well, may be given Epsom salt from one to three times weekly, according to the nature of the disease and the severity of the symptoms.

The best method of administering Epsom salt (as well as other fluid medicines), although practicable where only a few birds require treatment, is by means of a small funnel and a piece of rubber tubing (three-sixteenths inch internal diameter). The funnel is inserted into one end of the tubing, while the other end, lubricated with lard or vaseline, is passed into the mouth, back over the opening of the windpipe at the base of the tongue, and down through the gullet into the crop. One or two ounces of water in which has been dissolved one-third teaspoonful of Epsom salt can now be poured into the funnel and the tubing gently withdrawn. Since Epsom salt acts best

when well diluted, this method may be considered ideal. If slender tubing is used and one is ordinarily careful in passing the tubing over the opening of the windpipe there is absolutely no danger attached to this method. Moreover, there is the satisfaction of knowing that the entire dose has been received by the bird.

2. Clean up.—Do this by spreading powdered air-slaked lime over runs (and range, if possible), floors of houses, and on the droppings boards. Emphasis must be laid on the two qualifications here given to the lime; it must be powdered and it must be air-slaked. Lime that is not powdered, even if the lumps be very small, must be regarded with suspicion as not being slaked and therefore more or less irritant. As soon as the birds begin to scratch where the lime has been spread, thus raising a dust, the irritating particles of the unslaked lime are inhaled, and, reaching the lungs, set up inflammation. In this way one might have an outbreak of pneumonia in his flock and be unable to explain its origin.

3. Clean the water supply.—There are three methods of accomplishing this, each being so easy of application that it may be substituted with entire satisfaction for either of the other two. The writer's usual prescription is

Continued on page 130.

Modern Business Methods For Poultrymen

By PERCY H. WHITING, Atlanta, Georgia



POUTRYMEN who sell stock or eggs for hatching do not seem to realize the value of a "prospect."

"Prospects" are expensive. To get them a man must depend on advertising, on reputation, on boosting by previous purchasers—all slow and expensive methods.

When a man has written you for a catalogue, mating list or terms that man's name is of real value to you. It is presumed that he is a real prospect—that he wants to buy some of whatever you have for sale.

This prospect should be made to buy if there is a possibility of doing this.

From observation I believe it true that poultrymen who advertise do not realize the full value of a prospect and do not try half hard enough to sell him.

If you are selling stock and eggs most of the replies you get to your advertisements will come from people living at a distance. Your chance of transforming these prospects into customers lies in sending them strong letters and convincing circulars, mating lists or catalogues.

If the experience of other advertisers holds true in the poultry business, as it surely should, more dependence can be placed on good, strong letters to close the sale than on anything else. A good letter is worth a cart load of catalogues.

And a system of follow-up letters is worth ten times as much as a single letter.

The idea is just this—that if you have a live prospect he is worth more than one letter. And on the other hand your chances are ten times as good of landing an order with a series of five letters as they are with one letter. It is because constant pounding wears away any kind of resistance.

A poultryman who is selling eggs for hatching, for instance, for a good price (and a man is foolish to sell them at any other price) ought to have a system of follow-up letters for all possible prospects.

For ordinary purposes a series of three or four letters should be enough.

Any poultryman would do well to sit down and work out a series of follow-up letters. Make the first one a good strong letter, along the lines already indicated in this series of articles. But don't shoot away all your ammunition in the first letter.

Plan a second letter that will make a feature of some special point in the goods you are offering for sale. If you are selling eggs make the feature of the second letter some special point in the breeding, some system of their care that tends toward strength and constitutional vigor, or any other good point that you want to bring out and emphasize. Before you finish your letter try to summarize all the points of the first letter.

A third letter can be constructed along similar lines.

If a fourth is used it should be short and to the point. If you are willing to offer some special inducement or if you have some excellent reason to offer for buying use it here.

Make all your letters reasonably short. Don't make any statements that you can not prove. Try to write them all from the viewpoint of the possible purchaser. Do not go into a long winded account of what wonderful stuff you have bred. Show the prospect, rather, how this excellent stock, if bought from you, will make money for him.

With this series of letters once written the poultryman has follow-up letters that will fit all normal cases.

A good, large proportion of the follow-up systems of letters these days are multigraphed—that is printed on special machines that imitate closely the type of the typewriter. Then the date and the name of the man to whom the letter is to be sent are filled in with typewriter. Except in the case of poultrymen doing an enormously large business this method is not practical. Unless the "filling in" is done most artistically the result is a botch letter and the fake is so obvious as to be absolutely insulting to the person who receives the letter.

The average small breeder has two alternatives. He can have a series of letters prepared by some multigraphing company, some beginning "Dear sir" and some "Dear madam" and can use these without making any attempt to fill in anything at all. Or he can write each letter separately as the need arises. This latter system produces the most effective letter, but it is too troublesome except for the man with a very small business or for the one who has an unlimited force of stenographers at his disposal.

Poultry breeders ought to give this matter more consideration.

To spend good money to secure prospects and then to throw them again by sending the "Yours-of-the-seventh-ult-red-and-contents-noted. I-am-sending-under-separate-cover-copy-of-my-mating-list-and-hope-it-will-please-you," variety of letter doesn't deserve real business.

Every man who evinces enough interest in you to write for catalogue, list or prices deserves your best attention until you have sold him or until you have satisfied yourself that you have no chance to sell him. And even then his name should be filed among your prospects and he should receive letters and circular matter the next time you send out any.

Make your prospects buy. Remember that it costs money and time and trouble to get them and that they are worth keeping.

Send out your follow-up letters at seven to ten day intervals. Of course if you get any replies modify your follow-up letters so that they answer your prospect and at the same time carry on the argument in favor of your stock.

But follow them up. Make your prospects buy.

THE INDUSTRIOUS HEN

AND

TENNESSEE POULTRY JOURNAL

Devoted to Every Interest of the

Commercial and Fancy Poultryman

Entered at Knoxville, Tenn., Postoffice as second-class matter

S. B. NEWMAN & CO.....Publishers

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Correspondence Solicited

Poultry Interests Well Represented

THE poultry interests of Tennessee are well represented on the agricultural train just now completing its tour of the State. The poultry section is in charge of Prof. J. A. Dinwiddie, of New Market, Tennessee, whom we believe to be the most scientific poultryman in this state, if not in the entire South.

What Prof. Dinwiddie knows about poultry has been learned from that dearest and best of all schools, experience. He has solved the problem of "why is a hen?" also why is an egg, and what? Mr. Dinwiddie has discovered the ingredients of an egg and the food required to produce it. For instance, a hen fed on an exclusive corn diet will not produce 200 eggs per year. She will consume only so many pounds of corn, and as corn is not an egg producer, she cannot consume enough to manufacture 200 eggs. The same may also be said of wheat and oats and the other foods. But Prof. Dinwiddie has, by scientific analysis of an egg discovered in just what proportion these and other ingredients must be fed, in order that the farmer's hen may produce 200 eggs per year.

This is one of the many valuable points the farmers of Tennessee, who visited the agricultural train, have been learning. Mr. Dinwiddie is not a polished orator, but one fact beyond dispute is that he knows chickens, and he tells it to the average farmer in such a way that he knows what the Professor is driving at, and is usually able to take the information home and apply it to his flock.

There is no manner of computing the value of this last trip of the agricultural train to the poultry interests of Tennessee. Every farmer in the State who availed himself of the opportunity offered has learned the science of increasing the yield of the farm hen from 80 to 200 eggs per year, as well as the value of sanitary methods in poultry culture.

Some of these days the State of Tennessee will employ a poultry commissioner, and it will be to the best interest of the farmers and poulterers of the State if that man is Prof. J. A. Dinwiddie, of New Market.

Humane Treatment of Poultry

Poultrymen generally should support the bill introduced by Congressman Mann from the Chicago district known as H. R. 22330, for the prevention of cruelty to poultry in transportation. The bill has been referred to the commit-

tee of interstate and foreign commerce. It provides that any live poultry shipped must not be without food or water more than 24 hours. In this time is reckoned any delay at station. It also provides that all coops or carriers must be properly ventilated, nor over crowded, nor shall the coops be too low to inconvenience the poultry. It imposes upon the agents of the transportation companies on loading to insure proper ventilation and have air freely circulated around the coops and that all cars or other receptacles in which the coops are loaded shall be ventilated. It requires that all agents of carriers, accepting live poultry, must examine the stock and remove from the coops all sick, injured or dead birds and that the carriers must examine the shipments every four hours and all dead or injured stock must be removed whenever found. The bill also provides that all live poultry in transit or at stations must be protected from too much heat or too much cold. The penalty is not less than \$100 or more than \$200 for each offense. It imposes upon the United States district attorney in each section to prosecute these violations.

It is understood that the National Poultry and Game Association will take some action in regard to this matter, and have the bill properly amended or constructed to meet the requirements of the trade.

Egg Production and Prices

The production of eggs varies considerably from month to month. A record made from a large number of flocks in the last several years covering various portions of the United States, shows that for every one thousand eggs produced in a year approximately 66 are laid in January, 71 in February, 124 in March, 134 in April, 133 in May, 107 in June, 96 in July, 86 in August, 62 in September, 42 in October, 31 in November and 48 in December, says the Crop Reporter. A good laying hen ought to produce two hundreds eggs a year, but the average run of hens do not produce much, if any, more than one hundred a year. For every one thousand eggs marketed (based upon receipts of New York, St. Louis and Milwaukee in the last ten years) approximately 33 are marketed in January, 47 in February, 128 in March, 168 in April, 153 in May, 119 in June, 87 in July, 76 in August, 64 in September, 53 in October, 39 in November and 33 in December. If we let the sum of the monthly index figures of prices (average prices of fresh eggs at twelve cities, 1902-11) for the year be approximately 105 for January, 89 for February, 71 for March, 66 for April, 65 for May, 64 for June, 67 for July, 75 for August, 84 for September, 94 for October, 107 for November and 113 for December. Letting 100 represent the average price paid to farmers of the United States in the month when prices are lowest, the average on the first of each month in the last three years was 180 on January 1, 152 on February 1, 118 on March 1, 100 on April 1, 102 on May 1, 102 on June 1, 101 on July 1, 104 on August 1, 113 on September 1, 128 on October 1, 146 on November 1, and 171 on December 1. In quality country shipped eggs are frequently freshest in spring, when prices decline rapidly, and poorest in late summer and early fall, when prices tend upward, causing a disposition to hold.

Notice, Members E. T. Poultry Association

Shall we have a poultry show in Knoxville this winter? This question should be decided at an early date. All members of the Association who favor a show should notify Mr. J. H. Henderson, chairman of the executive committee, at once.

Mr. L. L. Jones, poultry husbandry department, State College of Agriculture, Athens, Georgia, was among the recent callers at the Industrious Hen sanctum. Mr. Jones attended the A. P. A. Convention at Nashville and was enroute to Morristown, Tenn., to inspect the large poultry packing house there.

Five hundred and eighty-eight votes cast on the proposition to abolish the office of second vice-president—and a good majority of them against it.

The resolution to abolish the office of second vice-president could have come from a different source with better grace!

Rule 17 did not even call for a rising vote.

Flotsam & Jetsam

By The ASSOCIATE EDITOR

Mr. Arthur F. Rolf, poultry husbandman of the Georgia Experiment Station, is one of the men who is doing much to attract attention to the State of Georgia, as a poultry center. He has issued the following in regard to the work of the Georgia Station:

"The Georgia Experiment Station has recognized, for a long time, the importance of the poultry industry to the state, and has just established a poultry department. At the recent meeting of the board of directors, I was appointed to the position of poultry husbandman. Before coming to Georgia, I was connected with the Mississippi and Connecticut agricultural colleges and experiment stations.

The station is especially desirous of being of the greatest possible help in advancing the interests of the poultry business throughout the state. Primarily, it proposes to start this work by the following methods:

1. Through personal attention to individual cases by correspondence.
2. By certain definite experimental and investigational projects along purely practical lines.
3. By the study of local or seasonable troubles which may arise, so far as the circumstances of the station will permit.
4. Through the publication of free bulletins containing information and advice on the different phases of poultry work.

In the first case, the station urges every poultry raiser, who wishes advice or information on any phase of poultry work, to take up the matter by correspondence. These letters will receive my personal attention, and I will endeavor so far as possible to locate the source of any trouble or advise better method to pursue.

It will necessarily be some time before the proposed bulletins will be available. These bulletins will be along purely practical lines of economical value to the Georgia poultry raiser and will contain the results of the experimental work at the station. Every person interested in receiving these bulletins is invited to send me their name and address, that I may place the same on the mailing list so that they will receive the bulletins as issued.

While, of course, the poultry department is still in its infancy, and its equipment small, it is planned to enlarge as becomes necessary.

At the present time, the station has small flocks representative of the best types of Single Comb Black Minorcas, Single Comb White Leghorns. White Wyandottes and Barred Plymouth Rocks. These birds are housed in model open front houses with ample yards, and supplied with the necessary fixtures such as nests, hoppers and drinking fountains.

All of the real needs of the poultry department may be summed up in the one great word co-operation. This does not mean the co-operation of any one person or group of persons, but

for best results it needs the co-operation of every person in the state.

In order to do exactly the line of work which shall be of direct advantage to the masses, the station needs the co-operation of all poultrymen. Let us know your needs and your problems. Let us have all information available on the subject of interest. Come to the experiment station when you can look over the plant and let us get in personal touch.

With the help of the poultrymen of the state we can make this department of real service and build up the poultry industry in Georgia to its just position."

Desiring to lend all aid possible to the exhibit of the Savannah, Ga. Poultry Association, which will be held in the fall, the directors of the Chamber of Commerce of that city have voted an appropriation of \$500 from its advertising fund to be loaned the association. The plan of the association is to loan the money with the understanding that if the exhibition is a financial success the amount is to be repaid, together with the balance due on the loan for the first exhibition. The exhibition will probably be held in conjunction with the Boys' Corn club exhibit. Trophy cups provided by the Chamber of Commerce and the Retail Merchants' association are already in existence and to be contended for at the next exhibition.

On one of the Southern railroads there is a station-building that is commonly known by travelers as the smallest railroad station in America. It is of this station that the story is told that an old farmer was expecting a chicken-house to arrive there, and he sent one of his hands, a newcomer, to fetch it. Arriving there the man saw the house, loaded it on to his wagon and started for home. On the way he met a man in uniform with the words "Station Agent" on his cap.

"Say, hold on. What have you got on that wagon?" he asked.

"My chicken-house, of course," was the reply.

"Chicken-house be jiggered!" exploded the agent. "That's the station!"—Ladies' Home Journal.

"Eat eggshells; eat eggshells. Throw away the yolk if need be and spill out the white if you will, but eat the shell. Then you will be healthy and happy and live to see your grandchildren's children."

Such is the earnest advice given by Professors Emmerich and Loewe, of Germany and disseminated widely through the medium of the press. The words "eat eggshells" must not be taken too literally. The learned professors have prepared a liquid they call the chloride of eggshells. Like the altruistic scientists they are, they have proclaimed the formula for this chloride; there is no secret about it—nothing proprietary. So, perhaps, their advice should be worded:

"Drink eggshells."

Professor Emmerich, of Munich, is world renowned for his knowledge of diphtheria and cholera. He and his colleague, Loewe, declare that the matronly and industrious hen is one

EARLY LAYERS

I have had "BROWN BEAUTY" pullets to begin laying at four months, ten days' old.

For twenty years I have bred BROWN LEGHORNS for utility and fancy purposes.

I have some fine breeding Cockerels which I am offering at one-half price during this month—I need the room. Order today.

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White Ind. Runner Ducks

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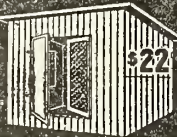


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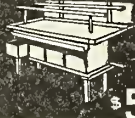
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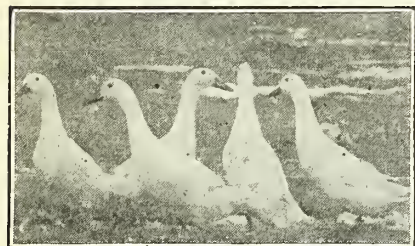


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Great layers of large white eggs. Can spare a few choice breeders. Eggs, \$5.00 per 12.

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Stock and Eggs for sale at all times. Send 3c in stamps for booklet and catalogue, tells how to make these breeds pay.

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of the greatest benefactors of mankind, not because she produces eggs, but because the eggs are contained in shells.

These learned men assert that eggshells, taken in proper form, lengthen human vitality, add weight to the body, destroy injurious bacilli, nourish the brain, strengthen the heart, prevent inflammation and lend courage and energy to the human being.

Even more important from a sociological point of view is the assertion by Emmerich and Loewe that a diet of eggshells conduces to fecundity and prevents depopulation. They fed eggshells to four pairs of white mice; within a given time fifty-four very small ones were added to the population of white mice. In the same time four pairs of white mice who had to do without the stimulating eggshells were blessed with a progeny which numbered only nine.

Emmerich and Loewe point out that hens cease to lay when their food lacks the calcareous elements in which eggshells are so rich. The savants recommend that a spoonful of the chloride of eggshells be taken three times a day in water.

When Edward D. Pomerey, of North Adams, Mass., was buried in the little mountain town of Buckland in a coffin that he made with his own hands a strange plea made by the old man to a doctor to save his life for two weeks came to light.

"Can't you keep me alive two weeks?" asked the ill man anxiously.

"Why do you want to live just two weeks?" asked the doctor.

"Well, you see," he replied, "I have six hens setting in that coffin and I'd rather not disturb them until they've hatched."

The Georgia Legislature is to be asked to champion the cause of the hen as opposed to the automobile. A petition is being circulated now at Thomasville requesting that a law be enacted making it a misdemeanor for any person driving a motor car to run over, knock down or kill chickens, or any live stock and not stop and there make diligent effort to ascertain the owner of the stock and settle with him at a reasonable valuation.

Oregon Washburn, a poultry fancier of West Oregon City, Oregon, is the owner of probably the youngest laying hen in the State, says a newspaper dispatch. The hen was hatched March 8 and laid its first egg June 24 and has been laying daily since. Its mother has hatched two broods since March 8. The chicken wonder is a white feather leg bantam, and under size even for that species. Mr. Washburn is confident the hen has established a record for early laying.

They Were.

Little Elsie came into the kitchen with some eggs in a basket. "Mamma," said she, "Our hens are getting awfully absent-minded."

"Why, dear, what makes you think so?" asked her mother.

"Look here," said the little girl, holding up a soft-shelled egg; "this makes the third one this week that they forgot to put a shell on."—**Judge's Library.**

BIG SALE BEST ANCONAS IN THE SOUTH

All of our ANCONAS advertised in last issue are not gone yet. We have some good ones left. Better inquire about them at once. Everything goes, including all our prize winners at the big Southern shows. Write

DISMUKES & ARRINGTON

Castalian Springs, Tenn

Poultry Shows & Associations

By JAS. B. DISMUKES.

SOME of the biggest and best poultry shows ever held in the past were the Missouri State Poultry shows held at Kansas City and St. Louis. An effort will be made this year to make the one at Springfield, Mo., Dec. 10-14, equally as great as any they have ever held. The following prizes will be paid: Pens—\$10.00 for first, \$5.00 for second, \$2.50 for third; single entries—\$3.00 for first, \$2.00 for second, and \$1.00 for third. Lots of club prizes and special prizes are offered. A winning at a great show like this means hundreds of dollars to the exhibitor as an advertising proposition. You will be wise if you put the big Missouri State Poultry Show on your list this year. The best judges of the Central West are on our list, and we guarantee an absolutely impartial and square deal to every exhibitor. Special inducements are offered to any exhibitor who wants a special booth in which to make a display of his birds. This is one of the best ways imaginable to advertise your birds and to make a hit with them. There will be a special department for the school children and for an educational exhibit. The children will have several hundred birds on display. You want to interest the coming generation in poultry. One of the best features of this big show will be the poultry school, lectures by experts and prominent poultrymen from the Agricultural Colleges and Experiment Stations. An excursion train will be run from Springfield on Thursday of that week and all visitors, exhibitors and judges will be taken to Mountain Grove to inspect the Missouri State Poultry Experiment Station. This will be your opportunity to learn something of the methods there and to see the hens in the National Egg-Laying Contest. You will see birds from England, Australia, Japan, Canada, and all parts of the United States. They invite all to visit the Experiment Station, and urge you to make a display of your poultry at Springfield, Mo., Dec. 10-14, 1912. Write the secretary for premium list.—T. E. Quisenberry, Mountain Grove, Mo.

The Dixie Poultry Association will have charge of the Poultry Department of the Alabama State Exposition, October 16-20. This Association is prepared to take care of 2,000 birds, having enlarged the poultry building and added a large number of coops. Mr. D. M. Owen of Athens, Tenn., well known by every poultry fancier in the

SHOW DATES.

Kingston, Tenn., Sept. 3-6, 1912.
Maryland State Fair, Timonium, Sept. 3-7.
Union City, Tenn., Sept. 4-7, 1912.
Shelbyville, Tenn., Sept. 5-7, 1912.
Alexandria, Tenn., Sept. 5-7, 1912.
Kentucky State Fair, Louisville, Sept. 9-14.
Concord, Tenn., Sept. 10-13, 1912.
Columbia, Tenn., Sept. 10-14, 1912.
Dyersburg, Tenn., Sept. 10-14, 1912.
Rome, Tenn., Sept. 12-14, 1912.
Tennessee State Fair, Nashville, Sept. 16-20.
Tazewell, Va., Sept. 17-19, 1912.
Newport, Tenn., Sept. 18-20, 1912.
Humboldt, Tenn., Sept. 18-21, 1912.
Tri-State Fair, Memphis, Sept. 23-28, 1912.
Deer Lodge, Tenn., Sept. 24-27, 1912.
Jackson, Tenn., Sept. 24-28, 1912.
Morristown, Tenn., Sept. 25-27, 1912.
Paris, Tenn., Sept. 25-28, 1912.
Missouri State Fair, Sedalia, Sept. 28-Oct. 4.
Fayetteville, Ark., Oct. 1-4, 1912.
Sweetwater, Tenn., Oct. 1-4, 1912.
Searcy, Ark., Oct. 1-4, 1912.
Paris, Ark., Oct. 1-4, 1912.
Hope, Ark., Oct. 1-5, 1912.
Emmerson, Ark., Oct. 2-5, 1912.
Rhea Springs, Tenn., Oct. 2-7, 1912.
Stephenville, Texas, Oct. 3-5, 1912.
Alabama State Fair, Birmingham, Oct. 3-12.
Jonesboro, Ark., Oct. 7-11, 1912.
Tupelo, Miss., Oct. 8-10, 1912.
Carlisle, Ark., Oct. 8-11, 1912.
Conway, Ark., Oct. 8-11, 1912.
Corinth, Miss., Oct. 8-12, 1912.
Dresden, Tenn., Oct. 9-12, 1912.
Piggott, Ark., Oct. 9-12, 1912.
Brownsville, Tenn., Oct. 9-12, 1912.
Texas State Fair, Dallas, Oct. 12-27, 1912.
Meridian, Miss., Oct. 14-19, 1912.
Ft. Smith, Ark., Oct. 14-19, 1912.
North Carolina State Fair, Raleigh, Oct. 14-19.
Selma, Tenn., Oct. 15-18, 1912.
Cleveland, Tenn., Oct. 15-18, 1912.
Camden, Ark., Oct. 15-19, 1912.
Georgia State Fair, Macon, Oct. 15-25.
Ala. State Exposition, Montgomery, Oct. 16-25.
Benton, Ark., Oct. 17-19, 1912.
Mississippi State Fair, Jackson, Oct. 21-26.
La. State Fair, Shreveport, Oct. 30-Nov. 6.
Arkansas State Fair, Hot Springs, Nov. 11-16.
Little Rock, Ark., Nov. 25-30, 1912.
Lake Charles, La., Nov. 26-29, 1912.
Taylor, Texas, Dec. 3-5, 1912.
Hydro, Okla., Dec. 4-7, 1912.
Victoria, Texas, Dec. 11-14, 1912.
Corsicana, Texas, Dec. 11-14, 1912.
Atlanta, Ga., Dec. 16-21, 1912.
New Orleans, La., Dec. 19-22, 1912.
Louisville, Ky., Dec. 23-28, 1912.
Norfolk, Va., Jan. 7-10, 1913.
Plainview, Texas, Jan. 7-10, 1913.
Spartanburg, S. C., Jan. 7-10, 1913.
San Antonio, Texas, Jan. 7-12, 1913.
Washington, D. C., Jan. 14-17, 1913.
Columbia, S. C., Jan. 28-31, 1913.
Fort Worth, Texas, March 18-23, 1913.

South, has been secured as judge. Entries close October 12th. Besides the many silver cups offered by merchants and newspapers, there will be several prizes offered by the Association to its members. Robt. West, secretary, Montgomery, Ala.

The dates for the Louisiana State Fair are October 30-November 6, 1912. W. Theo. Whitman will officiate as judge. L. N. Brueggerhoff, of Shreveport, Louisiana, is secretary.

The poultry exhibit, the leading feature of the Georgia State Fair, October 15-25, will be moved to a new building, 150 ft. by 100 ft. across at the short end and 50 ft. wide. As it is in the shape of an L, it will be well lighted and ventilated with sufficient room to accommodate 2,500 birds. Mr. Linton M. Solomon, of

WILL MAKE HENS LAY!

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S. C. LEGHORNS. Prize winning stock and eggs for sale. Write for catalogue. Square Deal Poultry Farm, Box J., Maysville, Ky.

SHORT POULTRY CROP

We hear this on every hand. It is reported that there will be less than one-half the regular crop of poultry this year, consequently the prices will be high the coming winter. We were more fortunate than most breeders because we have the facilities for raising them, and have thousands to sell, and we desire to dispose of as many as possible before the cold weather sets in. Then again, we raise the breed that lay the eggs in cold weather. If you want to get a start right in the best breed in the world, write us for our prices on

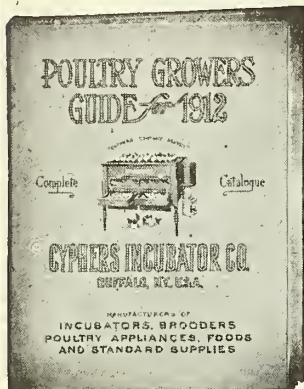
R. C. and S. C. RHODE ISLAND REDS

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BUSCHMANN-PIERCE RED FARMS
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Our beautiful catalogue, the finest ever gotten out by any RED BREEDER will be ready to mail October 1st. It will contain information about this breed and many other valuable articles that cannot be obtained any other way. Sent for 20 cents in cash or stamps.

EVERYTHING FOR POULTRY-KEEPERS



We manufacture more than one hundred articles for up-to-date, progressive poultry-men and women. Every article warranted to be as represented and guaranteed to give satisfaction or money refunded. Standard goods we manufacture and sell include following:

<i>Incubators</i>	<i>Laying Mash</i>	<i>Pigeon Supplies</i>
<i>Brooders</i>	<i>Short-Cut Alfalfa</i>	<i>Lice Powder</i>
<i>Brood Coops</i>	<i>Mealed Alfalfa</i>	<i>Roost Supports</i>
<i>Chick Shelters</i>	<i>Full-Nest Egg Food</i>	<i>Roosting Paper</i>
<i>Brooder Stoves</i>	<i>Nodi Charcoal</i>	<i>Spray Pumps</i>
<i>Leg Bands</i>	<i>Poultry Remedies</i>	<i>Powder Guns</i>
<i>Caponizing Sets</i>	<i>Napreol (Disinfectant)</i>	<i>Wire Fencing</i>
<i>Chick Food</i>	<i>Anti-Fly Pest</i>	<i>Bone Cutters</i>
<i>Developing Food</i>	<i>Egg Preservative</i>	<i>Chick Markers</i>
<i>Growing Mash</i>	<i>Fumigating Candles</i>	<i>Bone Mills</i>
<i>Fattening Mash</i>	<i>Drinking Fountains</i>	<i>Root Cutters</i>
<i>Scratching Food</i>	<i>Grit and Shell Boxes</i>	<i>Nest Eggs</i>
<i>Fertile Egg Mash</i>	<i>Food & Water Holders</i>	<i>Poultry Books</i>

Our Complete Catalog for 1912 consists of 244 pages, 7½x10 inches, and contains an illustrated description of all goods we manufacture. Eight valuable chapters on "Cyphers Company Way" of increasing egg-yield, producing prime table poultry, etc. Latest labor-saving devices and money-making ideas. FREE, postpaid, to any address if you mention that you saw our advertisement in this paper. Address Home Offices, or Branch Store nearest you.

CYPHERS INCUBATOR CO., Dept. 13, BUFFALO, N. Y.

Branch Stores and Warehouses: NEW YORK, N.Y. BOSTON, MASS. CHICAGO, ILL. KANSAS CITY, MO. OAKLAND, CAL.
23 Barclay St. 12-14 Canal St. 329-31 Plymouth Court 317-319 S.W. Boulevard 2127 Broadway

BLYTHE BROTHERS BARRED ROCKS

Box B, FRANKFORT, KY.

Now is your chance to secure extra good breeders at a very low price, as we must have the room for our growing youngsters. Exhibition birds of quality—just what you want for your fall shows. Book orders at once, and mention the Hen.

CHOICE POULTRY YARDS

Nine Varieties: S. C. WHITE LEGHORNS (Specialty), S. C. BROWN LEGHORNS, S. C. BLACK MINORCAS, WHITE WYANDOTTES, ROSE and S. C. RHODE ISLAND REDS, S. C. BUFF ORPINGTONS, S. S. HAMBURGERS, and BLACK BREASTED RED GAME BANTAMS. Breeding yards composed of the very best and finest to be seen in any yards. Some fine breeders for sale at reasonable prices, backed by our guarantee. Send us your orders; we will send you the very best we can afford for the price, and guarantee satisfaction or refund your money. Catalogue free.

J. P. SWIFT & SON, : Waynesville, N. C.

LANSDEN'S FAMOUS REDS

If you haven't got what you expected, remember that I can usually fix you up. I have the best crop I have ever produced. It's too late now to hatch winners. You must have the size—I have it—color and type. Don't buy before you have a talk with me.

H. B. LANSDEN, : Manchester, Tennessee
MENTION THE HEN PLEASE.

RICHARDSON'S ROSE COMB REDS

MADISON SQUARE GARDEN, BALTIMORE, HAGERSTOWN, won this season five firsts, four seconds, four thirds, one fourth, five fifths. WRITE YOUR WANTS.

M. C. RICHARDSON, JR. : Front Royal, Va.

MEMBER RED CLUB and AMERICAN POULTRY ASSOCIATION.

Macon, will be in charge of the birds and building. Mr. Geo. Ewald, of Cincinnati, Ohio, will be judge of all classes except the Orpingtons. This class will be judged by Mr. P. A. Cook, of Scotch Plains, N. J. Harry C. Robert, secretary.

The Northern Indiana Poultry Association of Marion, Ind., is an incorporated Association under the laws of Indiana, and is also an associate member of the American Poultry Association, and will give its first annual show Dec. 11-14.

The National Single Comb Rhode Island Red Club will offer some special prizes at every show whose secretary publishes in its premium list the notice of these prizes. For further information, address A. G. Studier, secretary, Waverly, Iowa.

The Rhode Island White Club of America will offer at all State Fairs and regular poultry shows, five handsome club ribbons, each on the best cock, hen, cockerel, pullet and pen. Two or more club members must compete to secure award of ribbons, which will be mailed direct to winners by club secretary, Mrs. C. M. Vertrees, Cecilia, Ky., on notice from show secretary verifying the winnings.

The National Single Comb Buff Orpington Club, with over 2,000 members, will offer at every show in the world beautiful silk badges, one each for best cock, cockerel, hen, pullet and pen. Will also give elegant silver cups in states having ten members of the club in good standing. Write for printed notice for your premium list to M. S. Brady, secretary, Richards, Mo.

The judges' committee of the Chattanooga (Tenn.) Poultry Association met recently in the office of Dr. A. W. Palmer, the regular meeting place. The names of several judges were considered, but no definite steps were taken to select one on account of the absence of some of the members of the committee. Many plans for the poultry show, to be held December 16-21, inclusive, were discussed, but no final plans for the fall show were adopted. The secretary of the association was instructed to send out cards of notification to all members of the association, requesting them to

SECRETARY'S ENTRY BOOK

A very compact book, size 8½x8½ inches, giving ample space for making entries without crowding. Printed on best quality paper and handsomely bound. Our simple labor-saving system of special indexing is a feature that adds much to the book and affords a great saving of time in making entries. 50 Leaves \$1.00; 100 Leaves \$2.00. : :

THE INDUSTRIOUS HEN CO. : : Knoxville, Tennessee

Smith Sealed. Prices postpaid—12, 30c; 25, 50c; 60, \$1.00; 100, \$1.50; 500, \$6.50; 1000, \$12.50. **LEG BANDS** **Leader Adjustable.** Prices postpaid—12, 15c; 25, 25c; 50, 40c; 100, 65c; 250, \$1.50; 500, \$2.75; 1000, \$5.25. **SAMPLES FREE** Write post or order now. Satisfaction guaranteed. Address THE KEYES-DAVIS CO., Inc., Dept. 520 Battle Creek, Michigan




be present at the next meeting of the organization. At that time definite plans for the December show will be decided upon.

The Cleveland (Ohio) Fanciers' Show will be held January 20th to 25th, inclusive. Judges are J. H. Drenstedt, Thos. Faulkner, Chas. McClave, Henry P. Schab, Richard Oke. For premium list, address J. T. Conkey, secretary, Cleveland, Ohio.

The Southwest Virginia Poultry Association, of Abingdon, Va., will hold their next annual show, December 10-13, inclusive, and the expectation is for the largest and best show ever held by the Association. Mr. Eugene Sites, of Elyria, Ohio, will judge, which is a sufficient guaranty of the awards being placed with general satisfaction to all. The judging will be by the comparison method.

With the issuing of their handsome premium list, The Tri-State Poultry Association has completed the preliminary work for one of the South's greatest fall shows during the week of Sept. 23-29, 1912. This list covers everything from Bantams to Turkeys. Not a breed or variety forgotten. A prize won at Memphis is worth winning, for it is conceded to be the gateway of the great South and Southwest and numerous sales at good prices are the rule. Better still, the Association issues every year, on January 1st, a directory of classified breeders, including those who exhibited and their winnings. 10,000 copies of these are distributed to buyers of poultry, feed, etc., who use it as a reference book and guide for their purchases. For copy of premium list, address R. B. Buchanan, secretary, 322 South Main St., Memphis, Tenn.

Although it is said that the cash prizes offered at the United Fanciers' Exposition, Sept. 30, to Oct. 5th, 1912, are the largest ever offered at a Western show, the special prize and silver cup offerings certainly set a new record. Over thirty sittings of valuable eggs donated by prominent fanciers represent a valuation in the aggregate of something like \$500.00. The merchandise specials given by local merchants and others equal another \$500.00, and more than fifteen quadruple-plate gold-lined silver cups will become the property of successful exhibitors. Six judges—Hewes, Shall-enbarger, Palmer, Seyler, Byars and Searles—will place the awards. The Exposition is to be held in the Auditorium, Awsarben week, when Omaha is thronged with visitors and the attendance should reach high water mark. Write the secretary, Leon C. Huntington, Omaha, Neb., for full particulars.



SAYLOR'S CONDITION TABLETS

Just the thing to condition Chickens and Pigeons for the show room and keep them in condition to win the **BLUE RIBBON** and **SPECIALS** is the aim of every exhibitor. We say to **YOU** a trial box of **SAYLOR'S CONDITION TABLETS** will convince you of their great merits. **Follow Directions and You Will Thank Us. Results Guaranteed.** Dealers wanted.

Price by mail, 25c. per box

Write to A. R. Saylor Drug Co., Allentown, Pa. U. S. A.



Mammoth Bronze TURKEYS For Sale

Old and young stock from two magnificent flocks, mated for largest size and best plumage. When buying be sure you buy the best. My breeding toms for six years have weighed from 43 to 50 lbs. at 18 and 20 months of age. Won many prizes in the leading shows, scoring from 96 to 97½ points. I can furnish you young stock that will grow that way for you. Do not delay buying your breeding stock early. Also Barred Plymouth Rock Chickens from the best prize-winning blood. Eggs in season. Member A. P. A. **MRS. J. C. SHOFNER**, Booneville Poultry Yards, Route 1, Mulberry, Tenn.

Densmore's S. C. W. Leghorns

WIN, LAY AND PAY

To make room for growing stock, we will offer a few choice breeding pens at half price. Also 500 one and two year old hens at \$1.00 and \$1.50 each.

THE DENSMORE POULTRY FARM, Inc., Roanoke, Va.

S. C. WHITE LEGHORNS

FARM-BRED STRAIN



Bred with inborn tendency to lay—long, deep bodies, low tails, pure white, healthy, vigorous. Bred and fed on scientific principles; reared under natural, congenial environments. And while I breed more especially for utility purposes, my birds have a good show record. Stock and eggs for sale.

CHICK-A-DEE FARM, J. A. Dinwiddie, Prop., New Market, Tenn.

EGGS=== \$2 Per Sitting of 13

S. C. White and Brown Leghorns, White Wyandottes, Barred Plymouth Rocks, Houdans, Black Minorcas, Light Brahmas, Cornish Indian Games and S. C. Rhode Island Reds. Large Pekin and Indian Runner Duck eggs, \$2.00 per 11. Send for folder. It's free. Exhibited ten birds at the great Southern International Poultry Show, Atlanta, Ga., and won three firsts, three seconds and three thirds, 4,500 birds competing. Also won at Baltimore, Md.

NEVIN POULTRY YARDS, Wardin Bros., R. 7, Charlotte, N. C.



THE BEST IN THE SOUTH
MY WHITE PLYMOUTH ROCKS
WRITE FOR ILLUSTRATED PRICE LIST
W. J. BRINKLEY, Iuka, Miss.



SUMMER BARGAINS

A few S. C. WHITE LEGHORN, WHITE WYANDOTTE and BUCKEYE hens and cocks for sale cheap. Also Pedigreed Collie Puppies. Write your wants. I can please you.

MRS. H. P. HINTON

R. F. D. No. 6, Box 87-A,

Dallas, Texas

GOLDEN and COLUMBIAN WYANDOTTES

Prize Winners at all the leading shows. Prices reasonable. Send for mating list "Golden Opportunity."

OLD HOMESTEAD FARMS

J. H. McDANELL, Prop.,

Box 126, Warsaw, Ky.

BUFF PLYMOUTH ROCKS

TAR HEEL STRAIN

Won more first prizes in 1911-12 in some of the South's leading shows than all competitors together. Young stock better than ever before. If in need of cockerels, pullets or pens for breeding or showing, I can fill your needs.

J. G. ASHE, Owner and Breeder, : : : Raleigh, North Carolina

QUALITY WHITE ORPINGTONS



ENCHANTRESS
First Madison Square
Hen, 1911.

At last season's six largest shows held in America our WHITE ORPINGTONS won 51 prizes out of a total of 150 in the largest and hottest classes ever brought together, thus proving beyond question the Superior Quality of our stock.

We are raising about 1,000 young birds, which are being reared under the best possible conditions to produce Size, Stamina, and Egg Production, and they promise to be even better birds than the Prize Winners from which they were bred.

We are in a position to supply birds that will Win in the Strongest Competition, and will condition them ready to show at prices as low as can be made considering the High Quality of stock we send out.

Send for our Catalogue describing the QUALITY WHITE ORPINGTON FARM of America.

ALDRICH POULTRY FARM

5099 North High St. : : Columbus, Ohio

EADY'S S.C.R.I. REDS

Winners at many leading shows—Birmingham, Mobile and Gadsden, Ala.; Houston, Texas; Meridian, Miss., and Tullahoma, Tenn. At the Alabama State Fair, 1910, we won three cups—two Club cups, one the Rhode Island Red Club of America for the best winnings; one the National Single Comb Rhode Island Red Club cup for the best pen of Reds. Won the other cup for the best cock, cockerel, hen and pullet. We won first pen at the Alabama State Fair, at Birmingham, three years in succession. We have won six cups in the last three years. Pens mated January first. We are now selling eggs at half price, per setting of 15. Send your order today. Some good stock for sale, write for prices.

C. W. EADY, Guntersville, Alabama

SINGLE COMB BUFF LECHORNS

Campbell's Buffs the best in the South. Blue Ribbon winners wherever shown.

At the Great Appalachian Exposition, won Grand Prize Silver Medal and Diploma for Best Cockerel in the Mediterranean Class, also eleven ribbons on Seven entries; specials for shape and color. At Asheville, 1910, won Grand Prize Gold Medal and Diploma for Best Cockerel in the Show. Two grand prize Silver Medals and Diplomas won this winter on one cockerel for best cockerel in shows. One pen of nice S. C. BUFF ORPINGTONS and prize-winning INDIAN RUNNER DUCKS. Write for my Mating List before placing your orders elsewhere.

MRS. C. B. CAMPBELL, - - Asheville, N. C.

THE LEADING BUFF LEGHORN SPECIALIST OF THE SOUTH.

Secretary-Treasurer North Carolina Branch A. P. A.; Third Vice-President of American Leghorn Club; State Vice-President of the American Buff Leghorn Club.

WANTED To stock large egg farms with Lawson's Blue Ribbon strain S. C. WHITE LECHORNS

They are the Egg Machines. Stock and eggs from one to one thousand. Write us.

WHITE HILL POULTRY FARM

A. J. LAWSON & SONS, Proprietors.

R. F. D. No. 4, Box 2, CLEVELAND, TENN.

SOUTHLAND'S CHAMPION

WHITE PLYMOUTH ROCKS

MARTIN F. SCHULTES

: Box 143, Bartlett, Tennessee

ORPINGTON GROVE

The birds of the GROVE have won many FIRSTS, SECONDS, etc. Also SPECIALS, SILVER CUPS, etc., under the most famous judges in the Poultry World. They have been handled and PLACED by Judges DREVENSTEDT, WITTMAN, DENNY, COOK, MARSHALL and BROWN. EGGS—\$1.00 each, \$10.00 and \$5.00 setting 15. Write for mating list.

MRS. L. L. UPSON

:

Box 607, Athens, Georgia

WHEN WRITING TO ADVERTISERS PLEASE MENTION THE INDUSTRIOUS HEN

Our Breeders and Their Birds

Mr. Louis Lee Haggin, the White Orpington breeder of Lexington, Ky., will show a large number of birds at Allentown, Pa., and the leading winter shows. Mr. Haggin has won many prizes in the hottest competition, at such shows as Madison Square Garden, where he won first cock, third hen, fifth pen, and the cockerel heading the first pen. Mr. Haggin thinks the winning cock is without doubt the greatest White Orpington in the world, having defeated the Crystal Palace champion and all the great cocks of America. At Allentown and Augusta, the only other two shows he made last season, he won at each the cup to that exhibitor whose ten or more birds of one variety showed the highest degree of excellence and uniformity of type and breeding.

Mr. Haggin attributes the great stamina and vigor of his birds to strong foundation breeding stock, pure air and blue grass range. Russell Cave Poultry yards, of which he is owner, has 100 acres, and Elmen-dorf farm 7,000 acres. He now has a grand lot of youngsters weighing five to seven pounds, ready to win the blue ribbons for some one. A number of prominent poultry judges have visited Russell Cave Poultry yards lately, and all say they have never seen such size and quality at this time of year. Mr. Haggin guarantees every bird as represented, and all are sold with the privilege of return.

Clayton I. Ballard, the well known poultryman of White Pine, Tenn., has received a pair of native India Runner ducks imported direct from Calcutta, India. The pair cost \$300, and the additional expense of transportation and feed amounted to \$52, making the total cost of the pair \$352. The imported ducks are different from lighter fawns which have been bred so extensively during the past year, having the markings of the English penciled breeds. Their most striking characteristic is the upright carriage so much in demand. Mr. Ballard is the original Indian Runner breeder in this section of the south, and has supplied hundreds of ducks for breeding and thousands of eggs for hatching to poultrymen in all sections of the United States during the past year. He is now breeding the three varieties, the white and light fawn,

CYPHERS COMPANY'S BIG FIRE.

One Of The Buffalo, N. Y. Factories of Cyphers Incubator Co. Destroyed By Fire August 16th, With Loss Exceeding \$200,000. Main Wood-Working Factory and Poultry Food Mill Not Injured. Business is Being Continued Almost Without Interruption.

On Friday, August 16th, the immense warehouse of Cyphers Incubator Company, at Buffalo, N. Y., in which were located the company's home offices and metal working departments was completely destroyed by fire, the actual loss on building and contents totaling more than \$200,000. The following letter from Mr. Curtis, president and general manager, will be of interest to our readers:

"Buffalo, N. Y., August 20, 1912.

Editor Industrious Hen:

"You probably have read in the daily papers of our severe loss by fire, which on Friday last totally destroyed our Buffalo warehouse, with an estimated loss of \$200,000 to \$250,000 on building and contents.

"The fire was a bad one, no doubt of that, but we were fortunate in many particulars. No lives were lost, our account books, most valuable records and a large supply of current printed matter were saved, also all patterns, steel dies, etc.

"We had two factories in Buffalo and the fire did not reach nor damage to any extent our wood-working plant where all incubators, brooders, poultry houses, coops, etc., are manufactured. On the day following the big fire we opened temporary offices in the finishing room of this separate factory and are now doing business there in good shape. Considerable office furniture and stationery were saved from the other building.

"As you know, our Poultry Food and Alfalfa Mill is located in Chicago and we branch stores and warehouses in six different cities outside of Buffalo—in New York City, Boston, Mass., Chicago, Kansas City, Mo., Oakland, Calif. and London, England. We make it a practice to carry large stocks of goods at these points and already several carloads of seasonable goods have been ordered shipped from our eastern branches to Buffalo for use in filling orders received from Buffalo territory.

"Please tell your readers, therefore, that the Cyphers Company is going right on doing business, that its branch houses are well stocked with goods, that Buffalo will have plenty of seasonable goods before your September issue reaches their hands and that our company is in position just now to appreciate more than ever their valued patronage.

Very truly yours,

GRANT M. CURTIS,
Pres. and Gen. Mgr.

INSIST UPON GENUINE ZENOLEUM.

The tremendous popular demand for Zenoleum has prompted many imitations to be put upon the market. Other goods are being offered by some

Save those sneezing, swollen headed fowls

Conkey's ROUP REMEDY

is guaranteed satisfactory treatment. Money back if it ever fails you. All dealers sell on this guarantee. Prices 50c and \$1.00.

FREE: A copy of the famous Conkey Poultry Book, 20 p. for name of dealer and stamps 4c.

The G. E. Conkey Co.
CLEVELAND, O. DEPT 7

unscrupulous dealers "same as Zenoleum."

Readers of this paper are warned that Zenoleum is made by The Zenner Disinfectant Company, Detroit, Michigan, and is sold in original packages bearing the maker's name and address on the label. To get the results that you wish, insist upon Genuine Zenoleum, and don't take anything else that is offered as "just as good."

Zenoleum is made especially for poultry people, and nothing will serve the purpose as well as Zenoleum. This is proven by the reports of 46 agricultural colleges who have issued bulletins in regard to this wonderful remedy. Send to Detroit for free copy of "Chicken Chat."

There is no excuse now for your not securing Genuine Zenoleum. Your own dealer can get Zenoleum for you through any wholesale drug house in America. Be sure you get Genuine Zenoleum, and don't take anything else.

If your own dealer will not supply you with Genuine Zenoleum, write The Zenner Disinfectant Company, 201 Lafayette Ave., Detroit, Michigan, and they will see that you are promptly supplied. An eight oz. can will be sent by express for 35c, charges paid. A full gallon will be sent for \$1.50, express paid.

CHARCOAL FOR POULTRY.

Charcoal is a very essential conditioner, and fowls will keep much more healthy if a supply is at hand for them even though we must invest a few cents in order to get it.



Ideal Aluminum Leg Band
To Mark Chickens
CHEAPEST AND BEST
12 for 15c; 25-50c; 50-35c; 100-60c; 175-1.00;
200-1.10; 500-\$2.50. Price list and sample 2c.
Frank Myers, Mfr., Box 57, Freeport, Ill.

QUINTESENT ANCONAS

Winners at Madison Square, Philadelphia, Baltimore and elsewhere.

8 WEEKS CHICKS

In trios and pens—little feathered beauties well on their way. Sex guaranteed. Express prepaid on eggs. Safe delivery guaranteed.

H. E. PORTRUM
Rogersville : : Tennessee

Poultry Profits Doubled

1 bring 30¢ lb.

1 bring only 15¢ lb.

CAPONIZING SETS

bring the largest profits — 100% more than other poultry. Caponizing is easy and soon learned. Capons sell for 30c. a pound, while ordinary poultry brings only 15c. a pound. Progressive poultrymen know these things and use

PILLING

Sent postpaid, \$2.50 per set with "Easy-to-use" instructions. We also make Poultry Marker, 25c. Gape Worm Extractor, 25c. French Killing Knife, 50c. Booklet, "Guide for Caponizing," FREE.

G. P. PILLING & SON CO., 23d & Arch Sts., Philadelphia, Pa.

Single Comb BROWN LEGHORNS

Eggs from Atlanta and Indianapolis' winners, as I have them \$1.00 per 15. Breeding hens cheap. Write for catalogue.

L. P. MATTHEWS Thorntown, Indiana.

MORE EGGS ARE LOST

from over-heating than from any other reason. We guarantee it impossible to over-heat the Tulane Incubator. Three trial hatches. Catalog free. TULANE INCUBATOR CO., Box 85, Lebanon, Ky.

The SOUTHERN PLANTER

The South's Oldest, Largest and Best Farm Magazine, and THE INDUSTRIOUS HEN, both one year for 50 cents.

INDUSTRIOUS HEN CO., Knoxville, Tenn.

Pratt's Poultry Regulator

is a great help to moulting hens. Insures quick moult, vigorous health and plenty of winter eggs 25c, 50c, \$1.

"Money back if it fails." Poultry Book FREE.

PRATT FOOD CO.
Philadelphia Chicago

WHITING'S PARTRIDGE PLYMOUTH ROCKS

DO YOU want fowls for egg-producing purposes? You might, of course, go in for some egg-machine. But these birds are too small to be money makers. Then try Partridge Plymouth Rocks. They are a big bird, handsome and desirable. At egg production they are second to none. In a year's egg-laying contest six hens produced 1,320 eggs. They won the first prize. My stock is straight from the fountain-head, Noftzger. Eggs \$5.00 a setting. Address care Georgian, Atlanta, Georgia.

—PERCY H. WHITING.

\$16.00

FREIGHT PREPAID



Industrious Hen Sewing Machine

Made for this magazine under a special contract, and could not be bought in the regular market for less than \$50.00 now being offered to Industrious Hen subscribers at \$16.00, freight prepaid—barely above cost of manufacture.

Many Features of Merit

Noiseless, Easy Running, Ball-Bearing, Stand Handsomely Embossed, Hand Polished Case, The Wonderful Automatic Belt Replacer, High Arm, Lock Stitch Sewing Head, Automatic Bobbin Winder, Automatic Stitch Regulator. All Steel Working Parts Hardened in Oil, Nickel Plated Steel Attachments in velvet Lined Box.

THE SEWING HEAD has more improvements, conveniences and time and labor saving devices than any other sewing machine of like grade.

THE CASE is very attractive in appearance and substantial in construction.

THE STAND is ball-bearing—the bearings operating in micrometer ground hardened steel cones.

ATTACHMENTS are of the foot pattern and packed in velvet lined box.

Guaranteed For Ten Solid Years

Don't let the wily sewing machine agent induce you to part with forty-five or fifty dollars for a sewing machine which is in no way superior to the "Industrious Hen Machine." It is a well known fact that it doesn't cost any more to build an "agency" machine than it costs to pull up the high grade ten year warranted "Industrious Hen Machine," and that the bulk of the agent's excessive price pays for his commission and for the other heavy selling expense, including cost of keeping branch offices, maintenance of horses, wagons, etc., and the pay of collectors, drivers and teachers.

All this expense is eliminated by us in our offer to you of the **INDUSTRIOUS HEN SEWING MACHINE** at manufacturer's cost, plus a small commission for our trouble.

This high-grade family sewing machine, together with a year's paid up subscription to the "Industrious Hen" will be sent freight paid for \$16.00 cash to accompany order. Send check, postoffice order or registered letter to

Industrious Hen Co.
Knoxville, — Tennessee

PRIMARY PRINCIPLES IN THE PREVENTION AND TREATMENT OF DISEASES.

Continued from page 121.

to add to the drinking water permanganate of potash in sufficient amount to give the water a claret-red color. For ordinary waters, comparatively free from organic material, the amount of the permanganate of potash necessary should be as much as can be dipped up on a silver 10-cent piece for each gallon of water. If more than four times this amount of potash is required to color the water, it is well assume that the water contains too much organic matter to admit of satisfactory disinfection by permanganate of potash.

In such a case the poulturer may employ the second method, that of adding sulphate of iron, commonly known as copperas. To 1 gallon of drinking water add 15 grains of copperas, which is approximately the amount that can be dipped up on a 5-cent piece. This proportion may be regarded as mildly antiseptic, but is as strong as should be used for any long period in view of its astringent action and drying effects on the lining of the digestive tract.

The third drug which the writer has found equally effective in the cleansing of drinking water is pure carbolic acid, in the proportion of one teaspoonful of carbolic acid to 1 gallon of water. The carbolic acid here recommended is of full strength. The poulturer who keeps on hand the acid in crystals may prepare the drinking water in the following manner: Place the unstoppered container in a pan of water; heat gradually until the crystals are melted. One teaspoonful of the melted crystals may then be added to a gallon of drinking water. If one desires to keep on hand a stock solution of the strong carbolic acid, he can purchase any desired amount of liquefied phenol (phenol is the official name of carbolic acid). Or the liquefied phenol can be prepared by the poultryman himself by melting the crystals of carbolic acid as described above and to every 9 parts by weight of the carbolic acid adding 1 part by weight of water. For use add 1 teaspoonful of liquefied phenol to 1 gallon of drinking water.

4. **Clean feed.**—Purchase clean feed at the outset, and preserve it in a clean, dry place protected from birds or other animals that might contaminate it with infective droppings. If through accident, such as dampness, mold has crept in, and it is necessary because of insurmountable circumstances to feed this material, apply strong heat.

5. **Clean eggs.**—Dip all eggs, just prior to incubation, in grain alcohol. This is, without doubt, the simplest and quickest method of disinfecting the shells of eggs intended for incubation. The writer has tried various dilutions, from 70 per cent alcohol to the 95 per cent usually sold in the shops, and has come to regard them all equally effective.

Another method of egg-shell disinfection, simple but not as quick as the alcohol method, is to wipe all eggs just prior to placing them in the egg tray with a cloth saturated with a 3 per cent solution of compound solution of cresol (liquor cresolis compositus) or cresol soap. (A 3 per cent solution of cresol soap is made by adding 2 tablespoonfuls (1 ounce) of compound solution of cresol to 1 quart of previously boiled water.)

6. **Clean incubators and brooders.**—This is carried out by thorough scrubbing with boiling water and old-fashioned kitchen soap. If, however, this should not be considered sufficient, there may be applied, after the scrubbing, a spray with a 3 per cent solution of cresol soap, made as directed above, except that the water used in making the dilution need not be boiled, as suggested for egg disinfection.

Another excellent method of disinfection is by means of formaldehyde gas. The most widely accepted method of employing this disinfectant is that known as the permanganate-formaldehyde method. This consists of setting free the formaldehyde gas of the commercial product formalin (40 per cent formaldehyde in water) by the action of permanganate of potash. A modification of this method, known as the permanganate-diluted formalin, is particularly satisfactory because the addition of the water insures the moisture conditions needed for the best results from the formaldehyde, these conditions permitting also a marked reduction in the required amount of formaldehyde.

As a preliminary to all directions for this method of disinfection it should be stated that the best authorities do not consider formaldehyde efficient at a temperature lower than 60 degrees F. nor with a humidity less than 65 per cent.

Where one has an incubator room, the room should be disinfected with the incubators and

brooders in it, together with all other movable appliances of the poultry farm, such as feed and drinking utensils, trap nests, and other appliances. All detachable parts of these appliances should be removed and placed about the room in such positions that the gas may have easy access to all surfaces. Incubators and brooders should be thrown wide open. Now, plug up all openings, doors, windows, cracks and other openings offering perfect-draws, and cracks with bits of cloth or rags. If flat surfaces may be satisfactorily sealed with strips of adhesive plaster or wet strips of newspaper. For a room containing 1,000 cubic feet (say 10 feet square and 10 feet high, or 10 feet by 12 feet and 8 1-3 feet high) there must be used 11 ounces of permanganate of potash, 11 fluid ounces of formalin, and 9 fluid ounces of water. The procedure is as follows:

In the center of the room, upon the dirt floor or upon a base sufficiently large to protect the floor from stains by the red permanganate which may be spattered around, place a basin or flat earthen vessel with flaring sides that will not hinder the exit of the gas generated. In the bottom of this container place 11 ounces of permanganate of potash for every 1,000 cubic feet of space in the room. Have at hand 11 fluid ounces of formalin and 9 fluid ounces of water for every 1,000 cubic feet. Mix the formalin and water in a pail and pour the entire amount on the permanganate of potash. Leave the room immediately, closing the door tightly and allow it to remain closed for from four to eight hours. After this the doors and windows should be opened (if possible from the outside in order to avoid entering the room and inhaling the pungent, irritating fumes of formaldehyde gas) and the room well aired for several hours.

It may sometimes become necessary to disinfect a single incubator or brooder. The following suggestions are offered for those who desire to use at such times the permanganate-diluted formalin method. Keeping in mind the impossibility of making these machines absolutely airtight, the writer is accustomed to recommend the following procedure and adaptation of the ratio mentioned above in the disinfection of an ordinary 240-egg incubator. Start the lamp, so that the incubator shall be thoroughly warmed. Cover the slat bottom of the incubator with a few layers of newspaper, tacking or pasting (preferably the latter) the four sides. Plug all cracks and openings except the door space. Whenever possible, soiled diaphragms should be replaced with new felt or burlap, as the case may be. If it is not feasible to do this, wash off all dirt and tilt the diaphragms inside the incubator so that they may not interfere with the free progress of the gas. Put out the lamp. Place in the center of the newspaper-covered floor of the incubator a saucer containing 1 leveled teaspoonful of crystals of permanganate of potash. Mix 2 teaspoonfuls of formalin (38 to 40 per cent formaldehyde) with 2 teaspoonfuls of water and pour upon the permanganate of potash. Quickly close the incubator door, making the cracks as tight as possible by means of wet newspaper. After four or five hours open and air the incubator for a few hours. The pungent, irritating, formaldehyde-laden atmosphere that sometimes lurks about the incubator after this treatment may be neutralized by placing in the incubator a saucer containing a very small quantity of weak ammonia water.

7. **Clean breeding.**—This is accomplished by breeding from the youngest females consistent with good breeding.

REASONS FOR APPLYING THE MAXIMS.

Let us look at some reasons connected with the application of each of the maxims.

1. **Clean out with Epsom salt.**—For the same reason that a chicken uses the dust bath, it is given the Epsom salt, namely, to get rid of or to diminish the number of parasites. The dust bath assists in removing the ectoparasites (outside parasites); the Epsom salt cleans out the endoparasites (inside parasites). Some of these may be large enough to be seen with the unaided eye, as, for instance, the various intestinal worms, whereas others may be minute enough to require high powers of the microscope for detection, or even be so infinitesimal as to belong to the class of ultra-microscopic germs.

It is customary to regard the presence of intestinal worms as a more or less normal condition and not deserving of any anxiety. But it may well be pointed out that the intestinal parasites of chickens, be they worms, molds, bacteria, or protozoa, are certainly not beneficial to the chicken. On the other hand, any one of them, no matter how apparently harmless, may produce disease or develop conditions in which certain well-known disease-producing parasites may operate, or may, during their so-called harmless development,

evolve poisons which, given certain accidents to the lining membrane of the intestinal tract, may suddenly provoke a fatal disease in the bird. Hence it is necessary not only to clean out the intestinal tract by means of Epsom salt but to keep it in this condition.

What has just been said is not merely with reference to the prevention of disease. Suppose disease of any form has attacked the bird. It now requires the maximum of its disease-resisting powers for a successful defense. But suppose the bird is already engaged in battling with intestinal parasites and neutralizing their toxins. It is as if a nation engaged in civil war is suddenly called upon to defend itself against a foreign invasion. So, when the flock is attacked by disease or a single bird becomes ill, even though the affection be only bumblefoot, the poultryman should clean out with Epsom salt. By this means he will not only stimulate the disease-resisting forces of his birds, but will also relatively increase those powers by the removal from the intestinal tract of parasites and poisons which would otherwise have to be overcome.

2. **Clean up by spreading powdered air-slaked lime.**—This is important chiefly because of its association with No. 4 (clean food). More cases of disease are probably developed through parasite-contaminated food and drink than any other means. We have every reason to believe that the causative organisms of disease in the respiratory and digestive tracts are passed out of the body of the bird in immense numbers in the droppings. Thus disease is spread from bird to bird by means of the infective droppings of a sick fowl or chick; or it may reach the flock from a neighbor's sick poultry by the wind wafting the dust from his poultry yard contaminated with the infection-laden droppings of his diseased stock, or being tracked from his place by dogs or cats or even by mutual friends, or it may be carried from place to place by such birds as sparrows and crows. It must be remembered, too, that it is not alone the sick birds that are thus a source of danger. In poultry hygiene as in human sanitation one must beware of the "carrier" of causative agents of disease, not only bacillus carrier but microbe carrier, using this latter term to include the molds and microscopic animal forms, such as coccidia, the cause of white diarrhea in chicks, and also parasite carrier, under which term are included the larger parasites, such as worms. These carriers are divided into three classes—sick carriers, chronic carriers, and healthy carriers. Against the sick carriers the poultryman is naturally forewarned and forearmed. But as the soldier dreads the ambushed foe, so let the poultryman be wary of the covert attack on his flock by parasitic enemies which stealthily approach the bird under cover of the "once sick but now supposed to be cured" bird (chronic carrier), and hidden in the intestinal tract of healthy birds (healthy carriers) that have simply picked up the parasites and are carrying them without being affected by them. Against all such risks the poultryman materially defends himself and his flock when he cleans up with powdered air-slaked lime.

Maxims 1, 2, and 3 form together a strong combination in combating the baneful influences of these carriers. The sprinkling of the lime should be carried out the same evening that the Epsom salt is given. The cleaning-out process is accomplished largely during the night and the air-slaked lime on the droppings boards serves to destroy the parasites thus ejected from their harboring hosts, whether sick, chronic, or healthy carriers. Therefore, whenever Epsom salt is administered it is well to sprinkle air-slaked lime about the premises, especially under the perches.

3. **Clean the water supply.**—Water-borne diseases are frequent in the poultry yard. If the poultryman permits, consciously or unwittingly, to run at large one bird sick with any of the contagious diseases of the head parts or with bowel diseases, it is practically certain that the water supply will be contaminated in less than one hour's time. In the case of a large flock affected with flagellate diarrhea, the writer found the flagellates in less than one hour's time in the drinking water which had been sterilized and placed in thoroughly disinfected fountains. It is well known how boards of health throughout the country recognize the danger which lurks in the public drinking fountain, and endeavor to safeguard the public health by adopting the individual drinking cup. While the poulterer can not adopt the individual cup for his fowls, he can by hygienic methods secure an equally good result by adding every few days (daily during the prevalence of disease) one of the antiseptics previously mentioned herein. In the proportions named, these remedies do not actually disinfect the water, that is, destroy the microbes deposited in it by sick

birds. They act rather as antiseptics; that is to say, they serve to inhibit the development of bacterial and other microbial life. This hindering of microbial growth occurs not only in the drinking fountain, but is maintained in the intestinal tract, thus making maxim 3 a splendid adjunct to maxim 2.

In ordinary circumstances, where drinking water is supplied in containers, these vessels should be sterilized once daily by means of hot water, and the water should be changed once a day in cool weather and twice daily in warm weather. During the prevalence of disease the water can not be changed too often and the vessels might well be scalded twice daily.

4. **Clean food.**—This, as before stated, must be accomplished by preventing contamination, or, when that occurs, by the application of heat. A man once said to the writer, "Oh, chickens love moldy bread; they will eat all they can get of it, and it never hurts them." That man, unfortunately, had never learned to reason from cause to effect, and was, therefore, unfitted to deal with health questions. Few, if any, of the intelligent men and women who are practical poulterers would care to furnish moldy feed to their high-priced prize winners. Pathologists recognize a disease called mycotic enteritis, which is an inflammation of the intestinal tract, manifesting itself by diarrhea and caused by the presence of some mold. They also recognize mycotic pneumonia, which is an invasion of the bronchial tubes by the mold known as *Aspergillus fumigatus*, giving rise to the disease known as aspergillosis. This disease is of frequent occurrence in pigeons and pigeon feeders, owing to the presence of this mold on the corn which the feeders take into their mouths along with water and force into the mouths of the "squealers" in a fashion similar to that practiced by the parent birds.

It is hard to estimate the immense value that hopper feeding has been to poultrymen in that it preserves the food from contamination such as occurs when grain is scattered. Nevertheless grain must be scattered, for the scratching shed is a necessity. However, moldy litter should be avoided. The removal of moldy clover chaff has been reported as ending a siege of aspergillosis in chicks (brooder pneumonia). Recently one of the State experiment stations purchased for litter some straw that had been baled while damp. A few days after the introduction of this straw the chickens began to die. Post-mortem examination revealed pneumonia, the lungs showing minute white spots. Bacteriologic investigation of these spots demonstrated the presence of a mold which was found also in the straw. The immediate removal of this litter and the introduction of clean straw checked the illness of the fowls.

These considerations point to the necessity of keeping the chicken feed free from mold; for example, moldy feed and meat scrap that "smells bad." With the latter, cases of bacillary diarrhea or toxic conditions similar to that known as ptomaine poisoning may be expected. If, in spite of the utmost care, as may sometimes happen, mold should creep into grain which it is compulsory to feed, treat it as the housewife has for years treated such accidents—by applying strong heat. There is immense satisfaction in realizing that the day is past when it was thought that moldy grain which could not be used by human beings would do for the horse, what was too bad for the horse would do for the cow, what was too bad for the cow would do for the hogs, and that which the farmer would not dare give to the hogs might be thrown to the chickens.

5. **Clean eggs.**—The reason for dipping eggs, just prior to incubation, in grain alcohol is the fact that as they come from the hen they are compelled to pass through the cloaca, which gives passage likewise to the droppings. Thus the exterior of the eggshell is certain to be contaminated with whatever infectious microbes are lurking in the intestinal tract of the hen. If, as is very likely to be the case, the hen is parasitized with coccidia, the shells of her eggs are certain to be contaminated with the coccidial cysts, which under the influence of the heat and moisture of the incubator develop to the stage necessary for the transfer of the disease to the chick. Then, when the chicks begin to peck, as peck they will, during the first 24 hours, some of these cysts will be taken into the alimentary tract and, upon reaching the duodenum (that portion of the intestine immediately following the gizzard), will be dissolved by the pancreatic juice, so setting free the coccidial forms that attack the lining membrane of the intestine and thus precipitating an outbreak of white diarrhea in the flock. There are many poultry breeders who are prepared to vouch for the marvelous results that have followed the

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cleansing of eggs just prior to incubation. However, the eggshell is not the only source of the contagion of white diarrhea, so that merely dipping eggs and then continuing to be careless on all the other points is not likely to be a sufficient preventive.

6. Clean incubators and brooders.—The chief necessity for this is because previous use has tended to infect them. For instance, the infected eggs of a first hatch may not have been dipped, although through some fortunate combination of unrecognized factors the chicks did not come down with the disease; nevertheless, the organisms are there. Again, in view of the widespread infection of adult stock by coccidia, and the writer's demonstration of the causative relation of these coccidia to the almost universally prevalent white diarrhea of chicks, every poulterer should act on the assumption that his adult stock is infected, that therefore the eggshells have been contaminated, and hence that a previously used incubator needs disinfection.

7. Clean breeding.—Consideration of a few facts will demonstrate the advisability of breeding with the youngest females consistent with all known principles of good breeding. A few years ago the writer made the announcement that so-called brooder pneumonia is caused by the presence of a mold, *Aspergillus fumigatus*, in the lungs of the chicks. That was the demonstration that brooder pneumonia is a pulmonary aspergillosis. The writer has examined cases dead within 24 hours after hatching in which more than half the lung tissue has been transformed into a solid, cheesy mass. Such a condition could not have developed after hatching. The time necessary for the development of such lesions would carry the starting point back into the period of incubation, hence the only possible method of accounting for such early disease would be to suppose the presence of the mold within the egg and its development in the egg along with the embryo, the conditions of incubation being ideal for mold development. That eggs may carry mold infection has long been known. Gayon, in 1875, reported finding in eggs a mold which appears to have been *Aspergillus fumigatus*. Since that time several investigators have noted the presence in eggs of this pathogenic mold. More recent investigations have revealed also the presence of various bacteria, both harmless and disease-producing, in the egg contents.

The question now arises as to how and where this infection of the egg occurs. It is known that infection of the egg may take place by passage of the microbes through the shell from the outside. Eggs kept in damp places are known to be thus infected with molds, while eggs whose shell have been allowed to remain in a filthy condition have revealed a bacterial infection of their contents in marked accord with the microbial contamination of the outside of the shells.

Some very recent experiments have shown that the eggs of virgin pullets reveal a much lower rate of bacterial infection than eggs from females that have been associated with the male bird. The act of copulation as carried out among fowls always results in the introduction of more or less dirt into the oviduct of the female, thus entailing gradual infection of the egg tube and ovary with microbes found in the soil contaminated with poultry droppings, to say nothing of the transfer from the cock bird's cloaca of pathogenic microorganisms derived from his own intestinal tract. It has long been recognized in a general way that infertile eggs did not suffer putrefaction in the incubator, while fertile eggs that did not go on to the development of the embryo were quite prone to become rotten.

The investigations referred to furnish us with the exact status of this question. There are infertile eggs other than those from virgin pullets, but it is not so much the infertile eggs as the eggs from virgin pullets that are free from infection. And here the poultryman's judgment and experience placed him on ground which the bacteriologist has now justified. Knowing from other and extensive investigations that constant breeding from pullets resulted in deterioration of the stock, poultrymen have taken to using their pullets merely as layers, reserving them for breeding only after the pullet age was passed. Then, as stated above, believing that infertile eggs did not spoil as quickly as fertile eggs, they decided that it was best to keep these laying pul-

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lets apart from the male bird. These investigations have justified this course and have also demonstrated that immediately upon association with the male bird the females are in danger of infection of the eggs tube and egg bag and consequently of the egg itself. Recognizing this possibility that constantly menaces the breeding birds as against the layers, if disease persists among the chicks in spite of cleaning out the intestines of the old birds, and spreading lime about the place and cleansing the water supply, and dipping the eggs prior to incubation, and disinfecting the incubators and brooders, the poultryman should look to the breeding stock. It must be remembered that from the moment a hen is mated there arises the possibility of infection of the reproductive organs which may be transmitted to the egg and so to the embryo, causing either death in the shell or of the newly hatched chick. All mated birds must therefore be regarded as potentially infected.

The experiments of Rettger and Stoneburn at Storrs Agricultural Experiment Station in the investigation of *Bacterium pullorum* are conclusive as to the transfer of disease-producing microbes from the ovary of the hen to the egg and thence to the embryo, thus causing death of the embryo in the shell or a fatal septicemia of the newly hatched chick.

APPLICATION OF THE MAXIMS TO THE TREATMENT OF DISEASE.

It must not be imagined that all necessary treatment of disease begins and ends with the employment of the seven maxims which have been enunciated in this paper. These primary principles have their place as the basis of all successful treatment. In many cases they might, very likely should, prove sufficient in themselves. Frequently, however, they must constitute only the foundation upon which a complete and efficient treatment may be built. Hence it seems wise at this point to present somewhat in detail the application of these maxims in the treatment of some of the diseases of poultry. Fortunately, most of the important diseases may be so grouped as to permit suggestions for the intelligent application of these maxims to any disease. Such, it should be understood, is the sole object of this section. It is not a manual of treatment of some representative groupings of poultry ailments for the purpose of incorporating the maxims studied above and of showing their relation to whatever specific treatment—local or general—may be adopted.

DISEASES OF THE REGION OF THE HEAD.

The one prominent disease group that occurs to the mind in connection with this title is that collection of ailments known under the general term of "roup." This name includes for the writer all affections usually so designated by poultrymen in different parts of the country, namely, snuffles, wet nose, cold in the head, contagious catarrh, sore eyes, cold in the eyes, roup disease of the eyes, diphtheritic sore eyes, sore mouth, sore throat, roup disease of the mouth, diphtheritic sore mouth, chicken diphtheria, diphtheritic roup, and canker. Being an infectious disease, roup is caused by microbes, not by drafts or dampness. These latter are predisposing factors which operate, as in a common cold, by furnishing conditions favorable for the multiplication of the roup germs. Hence, for the purposes of this paper, roup should be before the mind in treatment when there occurs in birds any deviation from the normal in the condition of the eyes or upper air and food passages, whether it be watering of the eyes, running at the nose, or slobbering, on the one hand, or, on the other hand, the presence in eye, nostrils, or mouth of yellowish, cheesy material, and (note this particularly) whether, with any or all of these symptoms, there is or is not an odor.

Without doubt the only safe treatment of roup is to kill the sick birds by a bloodless method, immediately burn their carcasses, and then, directing attention to the apparently healthy birds, clean out, clean up, and clean the water supply as previously directed in maxims 1, 2, and 3.

If, however, the poultryman for any reason desires to treat the sick birds, they should be isolated at once, kept at a safe distance from the flock, and visited only after the healthy birds have received their usual attentions. The poulterer immediately on leaving the hospital should change or disinfect his shoes, remove his hospital overalls, and thoroughly wash his hands and clean his nails. He

must keep constantly before his mind the fact that he is maintaining a pesthouse on his premises, and everything must be done to prevent transfer of the contagion from sick to well.

For the birds which are apparently well it is sufficient to clean out once a week, clean up by a liberal use of air-slaked lime, and clean the water supply daily. In the treatment of the isolated sick birds the indications are to clean out, clean up, clean water supply, and apply local treatment (Epsom salt may be administered twice and even three times a week until signs of improvement are manifested). Local treatment will vary according to the different phases assumed by the disease. Nevertheless, all portions of the upper air and food passages should receive some attention. This is required by the intimate relationship existing between mouth, throat, gullet, windpipe, cleft palate, nostrils, orbit, and groove (sinus) surrounding the orbit.

In all cases, by means of a medicine dropper or a small oil can, inject into the nostrils a few drops of peroxid of hydrogen. Flush the eyes with a saturated (4 per cent) solution of boric acid (1 heaping dessert-spoonful to 1 pint of water, preferably boiled water), or with a wash composed of 1 heaping dessert-spoonful of powdered borax to 1 pint of water. Remove all cheesy matter by means of a thin probe covered with absorbent cotton and wet with the solution of boric acid or borax. The mouth and throat should be swabbed freely with a mixture of equal parts of peroxid of hydrogen and boiled water. Cheesy matter in the cleft palate and canker patches in the mouth should be scraped away and the exposed surfaces painted with peroxid of hydrogen. Swelling under or around the eye are phases of roup and are best treated locally by injections into the nostrils and incision of the skin over the center of the lump, when, by a little pressure, the contents usually roll out like the yolk of a hard-boiled egg. The cavity may be painted with tincture of iodine.

Chickenpox, or sorehead, is by some eminent investigators regarded as another manifestation of roup. Others equally prominent doubt the identity of the two affections. It is, however, a contagious disease, and, if treated, should be dealt with upon the principles outlined above for roup. The indications are to clean out, clean up, clean the water supply, and apply local treatment. This last consists in removing the warts or scabs as they form on the comb or unfeathered portions of the head and paint the exposed surfaces with turpentine or tincture of iodine.

DISEASES OF THE INTESTINES.

This disease group equals in importance that previously considered. In fact, when chicks, as well as older birds, are taken into account, intestinal affections cause a much greater morrhea as the prominent symptom that the name group are so generally characterized by diarrhea. The various affections belonging to this "diarrhea," with various prefixes (white, pas-

ty, bacillary, protozoal, coccidial, flagellate, verminous), is apt to be the more common designation. Whatever the character of the disease, whether it presents the symptom of diarrhea or of constipation, whether it appears to be a mere disturbance of the digestive apparatus from improper feeding or a manifestly infectious malady, it must be understood that after a few days the disturbance takes on the character of a local intestinal infection, due to the multiplication of microorganisms in the intestinal tract. Hence all indications for treatment must be based on the possibility of infection either present or imminent. These indications are met by maxims 1, 2, and 3—clean out, clean up, and clean the water supply. If the intestinal disturbance has been induced by moldy or otherwise improper feed, further treatment, as indicated in maxim 4, is called for, namely, stop feeding the contaminated material; or if compelled to continue, apply strong heat to the moldy feed.

It is doubtful if a complete cure is ever effected in cases of infectious diarrhea. Some of the infective organisms are apt to become permanently located in some portion of the intestinal tract. As a result the cloaca becomes contaminated with these microbes, and consequently there takes place a pollution of the eggshell in its passage through the cloaca. Hence the next indication is met by maxim 5, cleanse eggs in grain alcohol just before placing them in the incubator. Moreover, since there is always the possibility of a mild attack of one of these infectious diarrheas having escaped the poulterer's notice, with the result that eggs from a hen which has thus suffered have been placed uncleaned in the incubator, a further indication for treatment in the overcoming of diarrheal affections in poultry calls for the treatment required by maxim 6, clean incubators and brooders. Sooner or later, if these affections persist in the flock, the poultryman must recognize the value of maxim 7, clean breeding by using the youngest females consistent with the requirements governing the production of vigorous stock.

Before starting in on a course of treatment like the above the poulterer should consider whether the sick birds are worth the trouble. He should also consider whether he can afford to risk the exposure of his healthy birds to the dangers incident to the presence of disease upon his premises. Whichever way he decides, he must undoubtedly see that it is better to apply the seven maxims of this paper as a preventive measure than wait to adopt them as a basis of treatment. He must further remember to quarantine all new birds, and neither introduce into the flock nor allow to remain in it any bird that shows watery eyes, running at the nose, noisy breathing, or soiling of the feathers around the vent. Such birds, in all probability, suffer from roup or intestinal infection in mild form, yet are able to disseminate the causative agents of the disease throughout the flock.—From 1911 Year-Book U. S. Dept. of Agriculture.

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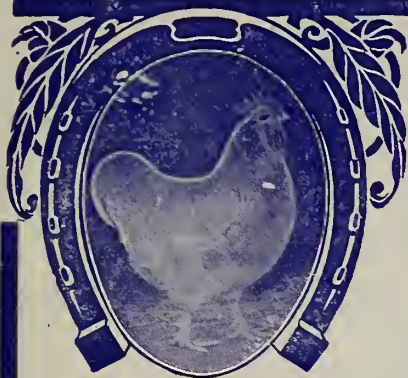
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